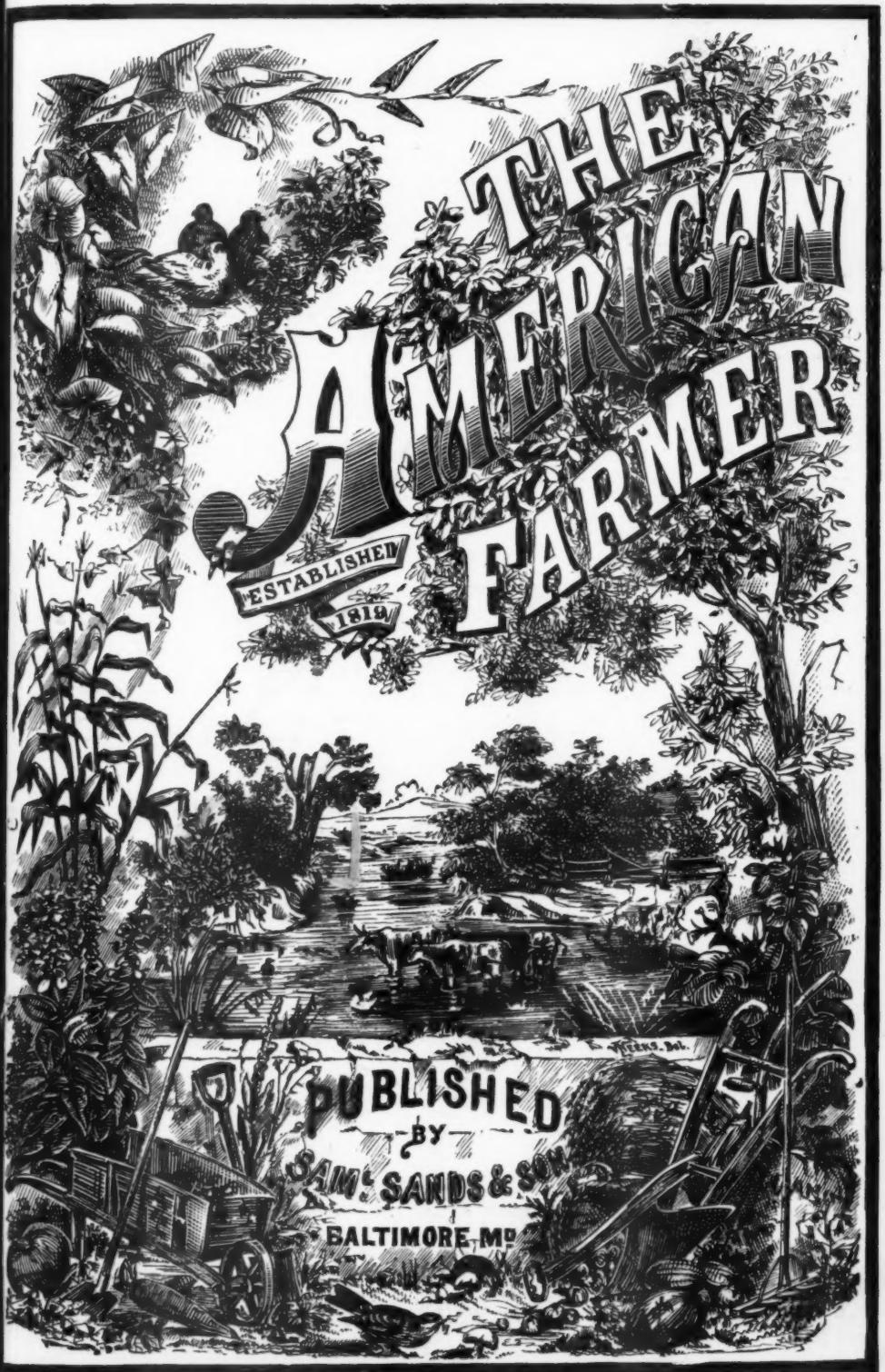
DECEMBER, 1880.



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THE

AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

PUBLISHED BY SAML. SANDS & SON, BALTIMORE, MD.

VOL. IX.—No. 12.] DECEMBER, 1880. [NEW SERIES.

Ground Oyster-Shells and other Fertilizers.

In a letter to Mr. G. F. B. Leighton, of Norfolk, Prof. N. B. Webster, one of the most scientific chemists in Virginia, gives his views on the use of fertilizers adapted to the various sections of the State, and proper to be applied in conjunction with ground oyster-shells,—his letter in regard to which was given in the *Farmer*. He says:

A fertilizer is anything that, applied to the soil, renders it more fertile. Fertilizers may act mechanically by modifying the power of absorbing or retaining moisture, and of admitting air to the germinating seed or the rootlets of the plant. They may also act chemically by supplying the soil with the essential elements of the plant to be cultivated. There is still another mode of action, which is by no means unimportant, viz: by the influence called by chemists, catalysis, where the mere presence of one body causes other bodies to combine as in the well-known processes of making oxygen gas from potassic chlorate in the presence of manganese dioxide, and of changing starch into grape sugar by boiling with dilute sulphuric acid. Lime acts as a valuable fertilizer, where from the nature of the soil its use is judicious in all three ways.

It may be well to state the fact that the best effects of fertilizers cannot be expected from shallow soils or undrained sub-soils.

You ask what I would combine with the ground shells proposed by you some months since, to produce the most economical fertilizers as required for the different crops of the State.

Probably no one ingredient or specific recipe will suit the varied requirements of soils and crops, to say nothing of the natural advantages of various sections of the State for the economical supply of valuable adjuvants of ground shell lime.

The seaboard region is conveniently situated for obtaining fish fertilizers and marsh-mud, while the interior portions afford marl, muck or pond-mud, and everywhere barn-yard or stable-manure ought to be abundant.

The ground shells contain but very little phosphate of lime, and it may be safely said that they would be greatly improved for all soils and all crops, by the addition of bone dust or perhaps still better by mixing with the South Carolina phosphates. I am quite sure that wood ashes and more especially potash salts could be profitably mixed with the lime. The rich sulphate of potash salts of Stassfurt are already largely used in this country, and would make an excellent mineral fertilizer combined with the ground shells. Potash is one of the most necessary substances required for all cereal crops and also for Irish potatoes, and exhausted lands respond more quickly to potash dressing than to any other fertilizer.

The brief consideration I have been able to give to your important question convinces me that it would not be best to manipulate the ground shells with Peruvian guano, fish guano, slaughter-house or fish offal, night soil or other ammoniacal or nitrogenous organic compounds, but to apply such fertilizers separately and as economically as possible in close proximity to the hills, drills or plants, while the mineral fertilizer might be spread broadcast over the field.

The liberation of ammonia by the action of alkaline fertilizers on organic matter, should not take place in manipulating factories and warehouses, to the annoyance of the public and loss to both sellers and buyers, but in the natural laboratory of the soil that bears the plant to be benefited thereby.

All chemists know the wonderful activity of chemical elements and compounds in their nascent state. It is like the gushing enthusiasm of "a soul in its earliest love." If this nascent action can take place at the very spongioles of the delicate rootlets of the tender plant, its effect will be the greatest possible.

You well say that users of fertilizers sometimes neutralize valuable fertilizers by mixing them. I am sorry to have to add that manufacturers of fertilizers sometimes do the same. I believe that millions of dollars are lost annually and sad disappointments caused by disregard of the law of compatibles. Physicians and druggists know what this means in mixing medicines, which sometimes explode in the mortar or

under the spatula—and sometimes worse than explode in the patient's "insides."

Among the most common of these agricultural blunders is mixing ashes, lime, &c., with ammoniacal guanos and fertilizers valuable for their nitrogen. Peruvian guano is not worth $70 a ton to volatilize in the air. If the reader will rub together in a mortar, or on any hard substance, a little sal-ammonia and lime or chalk, or finely-powdered oyster-shell, he will soon perceive the pungent "hartshorn" of the old-fashioned "smelling-bottle," which is simply liberated ammonia or its volatile carbonate. This is an old chemical experiment of "a pungent odor from two odorless bodies." In the application of your proposed ground shells, so rich with potash and phosphorous, which, I believe, is to "readjust" the old sorrel fields of Virginia and restore a greater than original fertility, it is to be hoped the law of compatibles will be observed. It is a good caution on Seidlitz boxes to "dissolve the powder in the blue paper in one glass and of the white paper in the other," and then mix.

Equally important in theory and much more so in practice is the mode of using alkaline and organic fertilizers. The hints you suggest open a wide field for investigation and experiment, which present opportunity does not allow me to enter upon.

Hoping you will persevere in your laudable efforts to promote the greatest interest that human industries are engaged in accomplishing, I am, respectfully, your obedient servant,

N. B. WEBSTER.

Norfolk, Va., Oct. 25, 1880.

Cotton Seed for Manure.

By all odds the cotton seed on a cotton plantation, says the *Dixie Farmer*, are the most valuable domestic manure. Their value is almost always underestimated, chiefly because they are wastefully handled. We trust that none of our readers will cling to the old practice of throwing them out from the gin, and exposing them throughout the winter to the weather. This is quite a sure way to destroy their vitality, and so prevent them from sprouting. The strength of the cotton seed as manure is also made more readily available to the crops by thorough rotting, as is shown by the prompt and vigorous growth of young corn that has been manured in the hill, as compared with that planted on beds thrown over the green seed. But while the seed are decomposing and becoming available as food, they are also losing a large portion of their virtue through the escaping gases. The pungent *smell* given off by a pile or pen of rotting cotton seed is the very essence of their fertilizing value, to wit: the ammonia. The drier the seed-pile is—if only moist enough to *heat*—the greater the loss of ammonia, as water absorbs and retains a large volume of this gas, especially if kept comparatively cool.

We have several times tried the plan of bedding on green cotton seed, both for corn and for cotton, but with rather unsatisfactory results. The green seed do not seem to act with sufficient promptness in the early stages of the crop, though coming out pretty well in the end.

In our climate, where early planting of corn is so desirable, it is very important that the plants should be vigorously pushed at the start by the application of a readily soluble and stimulating manure or fertilizer. This is not afforded by green cotton seed recently buried in the soil. The decomposition in this case does not seem so thorough as when the seed are rotted in mass, with generation of some heat, and in the presence of sufficient moisture. Years ago, before acid phosphates came into pretty general use, we followed the plan of composting the seed, in January or February, with land plaster and stable manure, with satisfactory results. But it soon occurred to us that land plaster alone, at the price it then commanded (twenty dollars per ton,) could not be profitably used as an ingredient in composts, its chief value being due to its power of absorbing or fixing ammonia.

Acid phosphate of lime was then substituted most successfully. Its absorbing or *fixing* power is due chiefly to the presence of sulphate of lime (land plaster) which comprises about one-half its weight, and is incident to its manufacture.

But the phosphoric acid contained in the acid phosphate is worth all that is charged for the whole, and is the very element which needs to be added to the cotton seed and stable manure. So the sulphate of lime (which is the scientific name of land plaster) serves to prevent the escape of the ammonia, while the phosphoric acid is an additional most important element.

The best farmers, now-a-days, carefully preserve their cotton seed under shelter until early in the new year or as late as March, when they compost, as has often been described in these columns, with acid phosphate and stable manure.

The Gunpowder Farmers' Club

Met Nov. 13th, at the residence of Lewis M. Bacon. Owing to the exceedingly inclement day, the customary tour of inspection around the farm was omitted.

Half Hour for Questions.

Ed. Scott asked John D. Matthews how much corn he had to the acre, and whether there was any difference where the phosphate was used broadcast or in the hill? *a.* Could see no difference. *q.* How much phosphate was used to the acre? *a.* 150 lbs., and the crop of corn was 227 brls. on 17 acres, or 13¼ brls. to the acre. *q.* Was it all plowed in the spring? *a.* Yes. *q.* What was the difference in the yield? *a.* From 3 to 4 brls. Until the rains came, where the phosphate was dropped in the hill the corn looked badly and had to be replanted, but afterwards could see no difference. Altogether, would not advise to use in the hill, as put broadcast the phosphate has given at least 2 brls. per acre increase, and shows plainly on the succeeding wheat crop, in our case doubling the yield of wheat.

Col. Franklin asked S. M. Price whether he had used any phosphate on his corn? *a.* Only on about an acre. Had 24 brls. of Compton's Prolific Corn, and had he planted his own corn thinks he would have had 30 brls. per acre.

Considers Compton's Prolific as useless for this section. Jno. Crowther asked whether there was any objection to covering a well up tightly on the score of its keeping the bad air confined. The club thought not.

The Manure Question,

Continued from the last meeting, was then taken up.

Jno. D. M. had applied compost to a field of 28 acres, and had a yield of 15¼ brls. to the acre, but the compost only went over one-quarter of the field, and he was all summer making the heap. *q.* Do you think the compost was as good as other manure made on the place? *a.* Yes; it was the best ever made there. *q.* Do you like to spread manure as you make it? *a.* Yes. *q.* I have a field to replant to corn next year; would you haul rough manure out from the stables? *a.* No; not if it was very rough. E. Scott.—Nothing new to communicate of his experience with manure; but it is a question with him whether it is not dearer to make manure and haul it out than to apply commercial phosphates, provided we can be assured that the latter will continue their effect beyond the first crop. The cost of applying superphosphate to the land, in the quantity usually put on, is not over $6 an acre, and it costs more than that to haul the manure out. *q.* How long can you see the effect of a good manuring? *a.* For several years. E. S. has been applying his manure direct from the stables, except when the ground is wet. The finest part applies where the ground is already plowed. *q.* You have known phosphate to fail; have you ever known a failure in the application of manure? *a.* No. N. Miles.—Believes we receive more benefit to apply direct from the stables, but for corn in the hill would use compost, as he has had no experience in dropping phosphate in hill. Parties who have used the latter report good results Considers we lose a great deal from our manure by leaving it in the barn-yard. Cannot agree with E. Scott. Phosphates are generally exhausted by first crop. *q.* Keeping your manure in dry place, does it fire? *a.* Not if the stock is allowed to tramp in it. *q.* Will dry earth keep it from firing? *a.* No. Jno. Bond.—Main object is to make all he can. When he has plenty of straw, leaves it in the yard until all is decomposed, and the cow and horse manure is all mixed. If it gets worked down too much adds straw, and hauls out when it suits him. *q.* Do you apply on surface? *a.* Not in winter time, if the ground is hilly; on bottom land might apply it. Likes to see his manure decomposed. L. M. Bacon has little experience.—Would prefer to leave manure in barn-yard, and let the kinds be mixed together; but in response to a suggestion will try an acre or so of corn, on which the manure is hauled direct from stables, and mark the difference.

A. C. Scott.—Had a repeat in corn, and hauled manure out on surface and turned under. Would advise shallow plowing of the corn-ground, following with wheat. *q.* Did you notice any difference in the effect of the manure first and that last applied? *a.* The earliest application was the best. *q.* Do you think fresh manure would give you twice as good results as allowing it to rot? *a.* Yes. *q.* If you throw cow and horse manure together under shelter and allow it to decompose, would you get twice as much benefit as if you hauled it direct from the stable? *a.* Thinks the difference would be in favor of hauling direct from stable.

Ed. H. Matthews.—Has been under his father's training, but does not agree with him. The largest yield he ever had was from an application direct from the stable on the sod. The yield was 18 brls. of corn, and a good wheat crop followed. From a compost heap to which 55 cart-loads of manure had been hauled, only 14 loads were hauled away. That put on a potato patch gave a poor crop of potatoes, and a poor crop of wheat followed. Believes by hauling manure direct from the stables it acts as a mulch in conjunction with its contained fertilizing qualities.

Col. Franklin's only method heretofore has been to keep manure in the yard and plow under. This old practice is that still maintained by the Pennsylvania farmers, and so good a farmer as the late Henry Carroll always persisted in it.

Several members read selected articles; one on plowing under green crops led to a discussion as to the advantage of plowing rag-weed. Ed. Scott had turned under a heavy growth, and had a poor crop of wheat.

Club then adjourned to meet in December, at Col. Franklin's, when the club will discuss the best treatment of a crop of clover to derive the greatest benefit from it.

Laying Off a Farm—Location of Buildings, &c.

The Deer Creek Farmers' Club met at the residence of Mr. Thomas A. Hays, on October 23. The committee of inspection, consisting of Messrs. Moores, Webster and Munnikhuysen, reported, through the chairman, that they had never seen so much improvement on any place as Mr. Hays's, in so short a time; found the buildings complete and enough for all purposes; do not know of as many good buildings on another farm. Mr. Hays has a very fine field of corn, also a large acreage of wheat in fine condition. The stock looked well, especially his Berkshire hogs. He has a good deal of machinery, well selected, well housed and in good order. The committee also examined the Pennock road-scraper, belonging to Mr. Hays. They considered it an admirable implement, and the committee thought every district in the county should be supplied with one. With it any man could be a good road-mender.

The committee having reported, Mr. G. E. Silver wanted to know if the money expended on Mr. Hays's buildings could not have been invested to better advantage elsewhere.

Mr. Allen replied by saying that none of us have half enough buildings, and that Mr. Hays's were not too many for the size of his place. He, Mr. Allen, had 6,000 feet of flooring and a farm of 100 acres, and found his barn much too small, but he thought Mr. Hays had made a great mistake in building his new straw barn (80 by 32 feet) in the way he did. First, it cut up his

barn-yard entirely too much. On that place over 100 head of cattle ought to be kept, and his barn-yard was entirely too small for that number. Besides, he wastes entirely too much of his straw barn by the drive-way. Mr. Allen also said he thought it was better to have barracks at different parts of the place.

Mr. Webster thought it would be better to improve land first and then to put up buildings. Where you have so many buildings it is a constant expense to keep them in repair.

Here the club took up the regular question: Laying off a farm, considering the position of buildings in reference to water, and convenience and size of fields, and from the report of the secretary to the *Ægis* we give the following:

Mr. Hays would start with dwelling. For this he would choose as central a location as possible. At the same time should be of easy access to main road. Water and stable should be moderately close. His are about 80 yards from house. Barn should be easy of access to fields, and would make his fields as large as possible, with reference to water and plowing, so as to throw the furrow down hill. Would have lots by the barn, and permanent lanes through his place. Would divide his place on account of hills for easy plowing, paying no attention to straight lines.

Mr. S. M. Lee agreed with general ideas of Mr. Hays. Would like to divide his fields so as to rotate crops. Each field should be made accessible to barn, without going through another field. Isolated trees should not be destroyed; would make his lanes wide, so stock could pasture there; would use lanes on large farms if necessary.

S. B. Silver would begin with situation of water and road; make the house subject to barn and water; would have barn easy of access to fields; would have 25-acre fields and lay them off with view of plowing. Would not want a farm of less than 250 acres. Very few of us have the laying out of our farms, that being generally done before we get them. The only change he has made is tearing up fences.

Mr. Rogers would choose a pleasant location for dwelling; would not like his outbuildings too far away. Size of fields should depend on size of farm; a small farm requiring as many as a large one.

Mr. Munnikhuysen thinks location of buildings most important. Too many of us have our buildings too close to dwelling. We can change fences at any time, but not so with dwellings.

Mr. Allen said every farm should be laid out so as to plow conveniently, and have water handy. Would not put his buildings in east and west line, on account of danger of one catching fire from others, as that is prevailing direction of winds.

Mr. Janney thinks most of us have to take our farms as we find them. Would not fence but one field and that would be a permanent pasture. Fences cost as much as land; would compel outsiders to keep their stock off; thinks about adopting that plan.

G. E. Silver agrees with Mr. Allen. There are a few main principles to follow, but not many of us have to choose. Would have as few fences as possible; would never fence against hogs; would locate buildings with reference to water.

Mr. Fulford said much depends on land and use of it; that it is difficult to lay down general principles. Would locate buildings with reference to water and winds; would have as little fencing as possible. For general farming would fence but one field and keep that for permanent pasture. For a stock farm it would be necessary to fence differently; would have buildings central, and have a wide lane which he would use for permanent pasture. By top-dressing and droppings it would be kept in good order and answer two purposes.

Mr. Moores says he went out on the commons and found a stony knoll, which he could not plow, and there he built his house. About seventy-five yards north he put up his barn. Has his farm divided in eight fields; moves his fences every five or six years. A man does not have to buy chestnut rails but once in a lifetime, and a worm fence of chestnut rails is worth more than any other fence or hedge. A hedge takes up too much room, and is entirely too troublesome to keep in order.

W. D. Lee thought that rotation should govern the division of a farm; would have fences which he could move.

Mr. Barnes agreed in general with Mr. Fulford.

Mr. Ball would select the most pleasant and watery location for house; would divide the fields according to circumstances; would not have his outbuildings too close to house on account of fire.

Mr. Webster would locate his house of easy access to road, and also so as to command the farm; would never build a barn within one hundred yards of his house; would divide his farm with an idea to water; would use worm fences, so as to change his fields if necessary. Has a worm fence with rails eighty years old. The oftener you change a fence the better for rails.

Wm. Hays agrees with Mr. Fulford. Likes to use a post fence; thinks a worm fence too filthy.

Mr. Archer would always put his house in a place protected from high winds and weather; also near the road. Does not believe in views for a house. Would have his barn higher than the house, so as to run water from the barn cistern to the house for use; would greatly prefer a post fence to any other kind; would not have any trees on the southwest side of his house, as the most pleasant breezes come from that direction.

Subsoiling Sometimes Profitable.

Subsoiling, as a rule, has fallen into disfavor, and the practice is, in most sections, practically abandoned. An experienced correspondent of the *Country Gentleman* gives his views upon the subject as follows:

Farmers are averse to subsoiling, and there is reason for it. Besides the extra labor, it is too often so conducted that it hurts the land more

than it benefits it. The true object is the deeper fining of the soil, the benefit of which no one will dispute. It gives a chance for the roots to extend in search of food, it disposes more readily of rain water when in excess, retaining it where it will be a benefit in a drouth; it lessons the effect of frost and severe heat, as the roots extend deeper, and the soil, by evaporation, is kept cooler in great heat and warmer in cool weather. There is also less ice formed, and hence less heaving of the plant. Beside all this, the soil below is aired, and the rains warm and enrich it, which cannot be done, except slightly, in its compact state. The object in subsoiling must be, in other words, to make of a cold dense soil an approach of a loam or better soil. It is an improvement of the texture, which must be done by mechanical means, and the common plow does much to effect this, in our river and other well-drained soils, including particularly sand, where it may be sunk to its full extent with little or no harm from the undersoil brought up, which has already been pretty well operated upon by the warm air and rain-water passing through, carrying with them some fertility. The lower soil is not unfrequently better than the upper.

It is doubtful, therefore, whether subsoiling can be of much if any benefit here, the mechanical condition of the ground admitting of little or no improvement. It is somewhat different with limestone soil which has greater density. Clay in its various forms is most benefited by subsoiling, and also hurt by it if the work is done at an improper time, when the soil will not allow it. To plow the undersoil of a tough clay is to give it an uneven texture, packing and displacing it, a condition worse than the previous one, and requiring at least a year to restore it. The soil may be dry enough to work well at the surface, and yet be too wet below. But it may also be too dry, as in a drouth, when it it is hard and will break in lumps, leaving hollow places. This will add to the force of the drouth and hurt the crop then sown, though it may benefit the land for the next year's crop. A second plowing would have reduced it more, and I may venture to say that it is usually of greater benefit than the first; the first breaking without sufficiently fining. Perhaps it would be best always to give two plowings, as it affords a chance for loosening the ground deeper, in addition to the better pulverizing of what was previously broken.

This brings us to the proper condition of the ground for subsoiling, which is when the greatest degree of mellowness can be obtained. This is to be ascertained by examining the soil, and precludes working when too dry or too wet, particularly the last. Sometimes we meet with a soil where the clay and sand are reduced to powder. This is rather a heavy soil and disposed to pack, especially the undisturbed undersoil, which carries off the water very slowly, while the upper-worked soil assumes an ashy fineness. When filled with water this makes it slumpy. To subsoil such land is to make it, in a wet season, an impassable morass. In a dry season it is an advantage. A tough, tenacious subsoil, where composed almost wholly of clay, must be let alone. The only treatment is very gradually deepening the soil, bringing up a little of this clay at each fall plowing, and applying manure to aid disintegration and favor improvement. If the surface soil has some sand this plan is an excellent substitute for subsoiling or preparing the land for it; if of clay, the case is a hard one.

Thus the perplexity attending subsoiling will be seen. This, however, should not discourage the use of an implement which is of decided advantage when intelligently used. It is only necessary that farmers test it carefully and discriminately, not for one or two seasons only, but to get the average effect of the weather. They will find it, among other things, to serve to considerable extent for underdraining, and it may lead to it, because drained ground is in better condition for subsoil work, a single plowing having the effect of two plowings without the drainage. Underdraining is the more important, as there are seasons when, without it, the ground is two wet for underwork. Tile remedies this and it has its effect also upon the soil in a drouth, by putting it in a condition to be more easily and finely reduced.

One of the great difficulties in subsoiling clay land is to know when to do it. The best time to meet the proper condition of the land is usually early in the fall, or latter part of summer. But the objection is—and it is a fatal one—the intervention of winter will neutralize the effect for the following season; it will cause the soil to settle down and pack so as to be of little or no avail—less so, however, in connection with drainage. This is my experience. The desirable time is in the spring before the crop is put in, so as to get the benefit during the season. But the difficulty here is to have the soil dry enough. It is seldom that this is the case sufficiently early to sow the crop in good time, which should be for most of our spring crops as soon as the ground is mellow or dry enough. The advantage of underdraining will now the more readily be seen. With anything like a favorable spring subsoiling may be accomplished, where there is good drainage, with good effect. For later crops, such as corn, millet, buckwheat and what may be put out for late soiling, there is little difficulty in getting good underwork, with or without underdraining, in the average season and on a fairly dry soil.

We thus see that succesful subsoiling of clay soils is mainly dependent upon two things—drainage and a favorable season. Other soils, such as our river bottoms, limestone and shaly, and other dry ones, may be subsoiled when the upper soil is plowed, the ground admitting of both operations at the same time, which cannot always be done with clay. If subsoiling is not properly done, it is better to abandon it, as more harm would result, both to the land and the crop, by its continuance. It is the injudicious use of the subsoil plow that, to a large extent, has made it unpopular, and to the no small loss of the farmer. But a better day is coming for this neglected tool.

OHIO raises more wheat this year than any other State, except, perhaps, Illinois. Her crop is estimated at 53,532,794 bus., or 18¼ bus. ₱ acre

County Fairs.

Messrs. Editors American Farmer:

A great many writers have been finding fault with the present management of our fairs, without offering any suggestions that would make them more attractive or successful financially. That they are indispensable to the highest success attainable in agriculture, is admitted by all enterprising farmers. Then let us endeavor to keep them up. So much money is offered in premiums to be paid to the successful exhibitors. The amount is usually raised by receipts at the gate, entrance fees on exhibits, the privilege of running the dining-room and the various games of chance. Should the weather prove unfavorable, the receipts at the gate fall short, and the association becomes financially embarrassed.—The members get discouraged and cry out "let it go up," and for their benefit I offer the following suggestions:

First. Abolish all games of chance and professional horse-racing. By this means we offer an inducement to the better classes to come and bring their children. I think there are many staying away under their present management who would favor them with their presence then.

Second. Give five or six premiums in each class, and there would be more inducement for the farmer in moderate circumstances to exhibit; for many think they cannot compete with the wealthy stock-fancier and do not exhibit at all, but under this proposition would have a chance of getting something to help pay for their trouble, and the display would be better.

Third. If a deficiency should occur in the receipts, then assess the members to make it up. To better illustrate this proposition, say there are one hundred members and the deficiency is two hundred dollars, then each member would have two dollars to pay. This would have a tendency to stimulate each member to raise or prepare something to exhibit and draw a premium if possible in order to meet the assessment, should any occur. Every member should be an exhibitor to make it a success.

If any agricultural fair is to be run with an eye to making money, regardless of the other advantages they should impart, then the sooner they "go up" the better. They are intended as places for men engaged in various occupations to bring together the fruits of their labor, and discuss the advantages or disadvantages of the exhibits, which may lead to better results in the future. These suggestions may invoke criticism, and lead to others more valuable, and we may yet see our fairs run successful and satisfactory to a majority of our people.

H. E. MANAKEE.

Montgomery Co., Md., Nov. 9, 1880.

Plowing Match.

Messrs. Editors American Farmer:

A trial test of plows and plowmen was held Nov. 9th, under the direction of a committee appointed by the Woodlawn Agricultural Society, Mount Vernon, Fairfax county, Va. The plowing was done on the farm of the secretary of the society, on what is known as bottom land, or alluvial deposit of clay and sand, on which was a good timothy sod free from stone.

Several dealers in agricultural implements from the cities of Alexandria and Washington were present with the various kinds of plows they had for sale; among which were the Roland Chilled, the South Bend Chilled, Wiard's Chilled, also the Minor and Horton, and the Commins plow. The tests were made with a dynamometer, under the supervision of a committee, consisting of Major George Johnson, John Ballenger and N. W. Pierson. The following is the result:

Roland Chilled, No. 3 E, two-horse plow, slip point with wheel and jointer; width of furrow 14 inches, depth of furrow 8 inches; draft 450 pounds.

Wiard's Chilled, No. A, three-horse plow, with wheel and jointer; width of furrow 14 inches, depth of furrow 8 inches; draft 450 pounds.

South Bend Chilled, No. 10, three-horse plow, with wheel and jointer; width of furrow 15 inches, depth of furrow 8½ inches; draft 500 pounds.

Roland Chilled, No. 43, three-horse plow, with wheel and jointer; width of furrow 15½ inches, depth of furrow 8½ inches; draft 525 pounds.

South Bend Chilled, No. 3, two-horse plow, without wheel or jointer; width of furrow 12 inches, depth of furrow 7½ inches; draft 375 pounds.

Minor and Horton, No. 19½, two-horse plow, without wheel or jointer; width of furrow 12 inches, depth of furrow 7½ inches; draft 400 pounds.

Minor and Horton, No. 20, two-horse plow, with wheel and jointer; width of furrow 12 inches, depth of furrow 7 inches; draft 475 pounds.

Commins', No. 12, three-horse plow, with wheel and jointer; width of furrow 12 inches, depth of furrow 7½ inches; draft 700 pounds.

The plows were tested with and without the jointer or skimmer: no perceptible difference could be seen in the draft; but a very plain difference in the work done. Without the skimmer a row of grass could be seen the whole length of the furrow; whereas, with the aid of the skimmer, all the top of the sod, with the grass and trash, was curled over and turned into the bottom of the furrow, leaving nothing to be seen but the fresh earth all crumbled up and so uniformly smooth that it was ready to be furrowed out for planting without the aid of the harrow.

There were five colored men contested for the premiums offered for the best plowmen, each plowing one quarter of an acre. Carter Webb won the first prize of 5 dollars; James Alexander the second of 3 dollars, and James Williams the third of 2 dollars. All did good work.

The plowmen each chose one of the new polished plows brought for the trial by the dealers. Those with jointers did the best work, and perhaps had something to do with the decision of the judges. South Bend, Roland Chilled and Wiard's Chilled, all three-horse plows, were the ones with which the plowmen won the prizes.

The day was lovely; the ground in excellent order, owing to the recent rains. The many farmers present watched with close attention the working of the several plows, contrasting them with the clumsy implements of by-gone days. Altogether it was a very interesting and agreeable day's work and recreation, with mutual benefit to all. N. W. P.

Nutritive Value of Roots.

I shall briefly examine the subject by the light of a few scientific facts, and endeavor to draw such practical conclusions as are suggested. And if I devote space to the consideration of the so-called root crops, to the exclusion of vegetables, it is because the latter are grown principally for human consumption, to be sold from the farm, and for them there is a constant demand to which the farmer has simply to cater; while on the other hand roots are generally grown for consumption on the farm, and it is of vast importance that we ascertain, if possible, which of them can be most profitably converted into animal tissues and animal products, or will in the greatest degree increase the power of the animal for taking the nutriment from its other food. In considering the question, we must first fully understand the object or objects of root-growing.

Writers on the subject have stated that the value of all food was solely in the nutrition it contained, and have endeavored to figure out its value in different articles on diet, simply from the amount of the nutritive elements found in them; yet every farmer knows that during its winter confinement, his stock is in an unnatural condition; that animals thrive best when fed upon green food containing more than eighty per cent. of water; and that the roots given them have two very important offices—first, to supply the nutrition contained in themselves, and, second, to keep the animal in as natural a condition as possible, and thus enable it to extract more nutriment from its other food.

All root crops contain about the same quantity of water, and therefore all answer equally well the second purpose for which they are fed. Therefore, in determining which crop furnishes the most nutrition in exchange for the cost of production, we have to deal only with the nutritive qualities, or flesh and fat-producing properties, of the various crops. And, for the sake of convenience, I have prepared a table showing the relative flesh and fat-forming qualities of our most commonly-cultivated roots. Though my results differ somewhat from quite generally received statements, I believe they are, so far as at present possible, perfectly correct; for the calculations are original, and the analyses upon which they are based were derived from foreign sources, and have never before appeared in English.

The most reliable chemical analysis of the important root crop gives the following results:

Total amount of nitrogenous or flesh-forming material.	Pounds
In 1,000 pounds of potatoes	20.03
In 1,000 pounds of mangolds	11.25
In 1,000 pounds of sugar beets	10.00
In 1,000 pounds of turnips	21.25
In 1,000 pounds of carrots	18.12

Total amount of carbonaceous or fat-forming material.	Pounds.
In 1,000 pounds of potatoes	237.4
In 1,000 pounds of mangolds	107.2
In 1,000 pounds of sugar-beets	174 4
In 1,000 pounds of turnips	81.7
In 1,000 pounds of carrots	139.1

By a comparison of these figures it will be seen that, as a flesh-producer, the potato stands first, while the sugar-beet comes last, containing rather less than half the amount of nitrogenous matter found in the former. As producers of fat, potatoes stand first, closely followed by carrots and beets, while turnips and mangolds are far in the rear. It therefore appears that were the nutritive qualities of roots the only basis for our decision, potatoes would be pre-eminently the best root-food for all classes of animals, and that next to them stands the frequently-despised carrot. But there is an item in guiding to the selection of the best root crop, if possible, of far more importance than the amount of beef and fat-forming elements it contains; namely, the cost of production, and hence the market-value per pound of the nutriment they furnish. Experience has fully demonstrated that, in regard to its yield, the ease with which it is cultivated, and its freedom from disease and insect pests, the sugar beet far surpasses all other roots; and when it is taken into consideration that in nutritive qualities it is only surpassed by the potato and carrot, both of which are greatly inferior to it as producers, and far exceed it in the cost of cultivation, it must be conceded that the sugar beet is, all in all, much the most profitable root we can grow, and is suitable alike for young growing animals, fat cattle, horses, milch cows; and even sheep and swine might advantageously be treated to an occasional meal of these palatable and nutritious vegetables.

Having stated what, to the best of my knowledge, is the most profitable root crop to grow, let me make a few suggestions with regard to the cultivation and use of roots. And first bear in mind that a hundred and fifty pounds of beet tops are equal, for fall feeding, to a hundred pounds of the best meadow hay. There is a great difference between growing beets for sugar and beets for cattle; in the former case it is the chief aim of the producer to exclude all the nitrogen possible, while in the latter it is desirable that the plant store up the largest possible amount of this element.

Therefore, beets for feeding purposes should be grown on heavier land, or that containing more organic matter, and giving all the nitrogenous food they will assimilate.

Notwithstanding opinions to the contrary, I do not belive in cooking roots for horned cattle. The animals relish the raw vegetables best. The amount of woody fibre is so small, and the elements of nutrition are all so soluble and readily takem up by the system, that the increased nutritive qualities of the food, if they exist, will not nearly compensate for the increased cost of feeding. An acre of land that will produce three tons of hay will grow twenty tons of beets; and when it is remembered that three hundred pounds of sugar beets are the nutritive equivalent for one hundred pounds of meadow hay it will be seen that an acre of beets furnishes more than twice as much nourishment as does an acre

of hay, and that the nutriment furnished by them is in the cheapest form. But as it is not natural for the animal to take the bulk of its food in this condition, it thrives best when receiving a portion in the form of hay or fodder. Aside from the nutriment they contain, the effect of roots on the condition of the animal is so salutary that this alone would repay the farmer for never attempting to winter his stock without roots sufficient to supply his animals with frequent meals of from one to three pecks of cut roots each. And, if such an allowance was given them every day, their owner would be amply rewarded.

Though I fear the statement conflicts with some generally-received ideas, I am convinced that, if not carried to excess, roots are the most profitable winter food for cattle; that among them the sugar beet stands first; next to it comes the mangel-wurzel; and for feeding purposes the potato, even were it not visited by blight, rot, or Colorado beetle, could never be profitably grown. It is a fact beyond controversy, that the most successful agricultural districts are those where the most attention is giving to these products. Though our farmers are giving the subject more thought every year, I believe that a vastly increased acreage is essential to their greatest success, and that the cultivation of this crop is a necessary accompaniment to high and successful farming. L. STOCKBRIDGE.

On Handling Tobacco.

The Danbury (N. C.) *Reporter* has the following pertinent suggestions:

The time has been when tobacco done up in any style would bring money, (so it will now;) but the kind of tobacco and the shape that it is put in changes as well as the style in dress and other things. Our farmers can heed the advice or let it alone; but the sooner they learn that tobacco must be properly handled and assorted, the better it will be for them.

While it loses but little if any of its real value by being pulled off the stalk and bundled up altogether, yet it injures the sale a great deal more than some are disposed to think, and it is quite natural that it should. In the first place a few bad leaves in a bundle of really good tobacco make the whole appear as if it was inferior, and then buyers cannot always make anything like an estimate of the quantity of the different grades in bulk; but, if he has an idea, he is sure to leave margin enough on the price he pays to cover the expense of rehandling. In many cases a buyer may be anxious to have one grade of tobacco in a bulk, but will not bid on it from the fact that one-fourth or one-half of it is of a kind that he does not want. Then, there are other reasons which should convince the planter at this day that he must class his tobacco or else he will have to pay some other person to do it, or, what is the same thing, lose the cost of classing on the price at which it is sold; and sometimes it will happen that they will lose ten times the cost of assorting.

It is a mistaken notion that the home manufacturer, or leaf dealer, does not want tobacco nicely classed and handled.

The Preservation of Timber.

With the aid of some of the students interested in the subject of forestry, I made a collection of twenty kinds of timber, and have set in the ground after the manner of fence-posts four pieces of nearly uniform size of each kind, in order to test their comparative durability. It is a very general belief among practical men that a post set top end down will last many years longer than if set as it grew. I understand the explanation to be this: trees absorb moisture from the earth—the cellular structure being of such a nature as to facilitate this operation. If a post is planted deeply and firmly in the ground, butt end downwards, it will continue to absorb moisture from the earth as it did when alive and growing, and is thereby subject to more rapid disintegration and decay than when reversed. In order to test the matter, I have split one piece of each variety of wood, setting the two pieces side by side, one top end down, the other in the same position in which it grew. To complete the experiment, some of the same varieties of timber will be collected the following summer when in an active state of growth, so as to determine, if possible, the best time of year to cut timber in order to insure the greatest durability.—*Prof. Lazenby, Cornell University.*

Returns from Three Acres.

Messrs. Editors American Farmer:

I give you the returns from crops planted on a lot of three acres for the past year:

In November, 1879, it was planted in cabbage and lettuce. In April, 1880, there were sold 28 boxes lettuce for	$ 17.50
From May 28 to July 10 there were sold 12,833 cabbages for	873.16
In April we sold also 29 boxes of collards, or small cabbages to be used as sprouts, for	23.70
The cherries from one tree on same lot sold for	28.00
After the lettuce was taken off, the ground was put in beans, which sold for	8.00
And after the cabbage was cut, the same ground was put in peas and tomatoes, of which I sold as follows:	
25 boxes peas	25.25
215 boxes tomatoes	172.00
Total from the three acres	$1,147 61

These figures are taken from my account-book. I have now planted the same ground again in cabbage and lettuce.

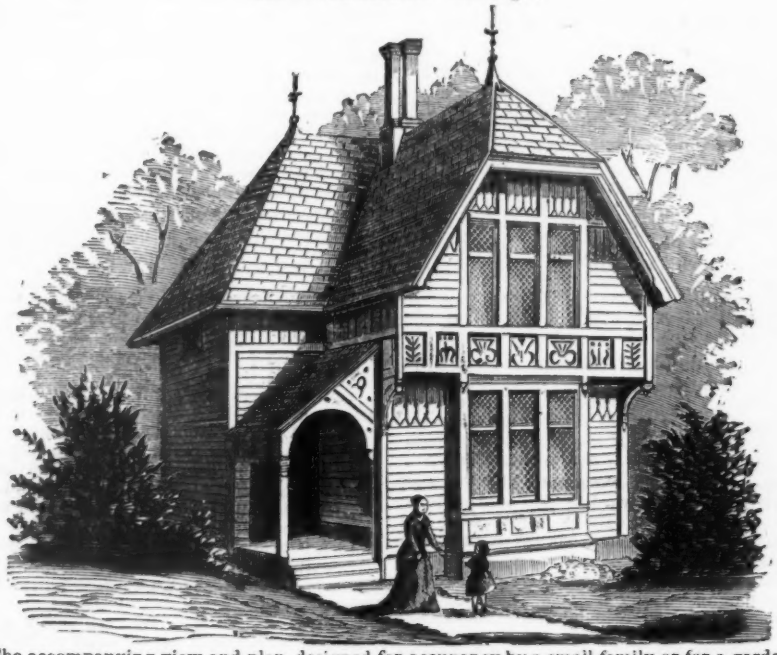
The fertilizer applied to this land was 3,500 pounds of the Grange Agency Favorite Phosphate, which was sown in November on the top of the ground before the ridges were made for the cabbage and lettuce; and nothing was put on afterwards. The soil is a clayey loam.

This is the eighth year this ground has been in cabbage,—the average product for the seven preceding years having been about $600 a year, which this season is largely exceeded.

JOHN T. JONES.

Patapsco Neck, Balt. Co., Md.

An Ornamental Cottage.



The accompanying view and plan, designed for occupancy by a small family or for a gardener's cottage, show a building, small, but very picturesque in appearance. It would be very suitable for a gate-lodge or a seaside or summer cottage, and would look extremely well among the trees of a camp-ground. The porch (with its seat) is large and roomy. The living-room is of good size, well lighted by a square bay window. The kitchen is well supplied with closets. The first floor could be improved by adding a one-story kitchen at the rear, making the living-room into a parlor and the kitchen into a dining or sitting-room; the additional cost would be very small. The second floor contains three bed-rooms, very conveniently arranged, and each provided with a closet. The two down-stairs rooms and the large front bed-room are supplied with open fire-places, the value of which for ventilation is so often overlooked in cheap houses. Besides this there should be ventilating tubes or shafts in the chimney sides, with registers opening from each room,—thus insuring a system of good ventilation. The roof should be ventilated by openings under the projecting eaves.

The estimated cost of this building in 1875, when the design was made, was from $1,200 to $1,800, according to locality and style of finish. The view and plan are taken from "Wooden and Brick Buildings," a work published by Messrs. A. J. Bicknell & Co., New York.

Own a Home.—Every man who has or expects to have a family should strive to become the owner of a home, for without one he can never feel nor be independent. With a home of his own he becomes better contented, feels a deeper interest in public affairs, and is a better member of society. No man should rest satisfied until he possesses a small portion of land.

Live Stock.

The Chicago Fat-Stock Show.

The exhibition of this year brought together fine specimens of the beef-producing breeds of cattle, fat sheep and hogs, and some Clydesdale and Percheron horses; but we take it from the local reports that the show was hardly as large as that of last year. Col. Gillette, whose cattle have been notable features of the previous shows, had forty-six head present, of all ages, including among them a pair of red steers, twins, 4 years old, and weighing nearly 5,000 pounds; a roan, 4 years old, weighing 2,680 pounds; a 2-year-old, weighing 2,000 pounds, and a yearling of 1,560 pounds weight. He also has a 3-year old which is to be slaughtered in connection with the competition on beef.

D. M. Moninger, of Marshall county, Iowa, had one red yearling steer, whose silken coat shades from a velvety walnut on the neck to a mahogany on the sides. There is not a white hair on him, except in the brush. He weighs 1,405 pounds and is very near ideal in form.

Nelson Morris had the great white leviathan known as the "Stock-yards Steer," said to be the finest in the world. He is now 7 years old, weighs 3,125 pounds, and has taken numerous prizes.

Charles Howell, of Moultrie county, Illinois, had a pair of 7-year-old oxen. They are pure white and are perfectly matched in conformation and weight. They are twins, three-fourths Short-horn, and bear down on the scales an aggregate of 6,000 pounds.

The sheep display included specimens of Cotswolds, Southdowns, Oxforddowns, Leicesters and Merinoes; and of swine there were some good Poland-Chinas, Berkshires and Victorias.

In the class of Short-horn steers between 3 and 4 years there were four entries, and the first prize was given to Wm. Sandusky's Booth of Vermillion, aged 1,367 days, weight 2,350 pounds, and average gain per day since birth 1.71 pounds; the second to Mr. Gillett's Cullom, aged 1,250 days, weight 2,215 pounds, and gain 1.77 pounds.

The committee say in their report:

"This ring was composed of four thoroughbred Short-horn steers, showing unusual development for age, and averaging 2,172 pounds, showing an average gain per day of 1.66 pounds. The steers were evenly matched, and showed the result of good breeding and handling. Considering the ages and weight of the steers, they were very smooth and free from patches, and evenly covered with thick meat of extra quality. The steer Booth of Vermillion was awarded the first premium, and excelled in the following particulars: Small, neat head and neck, fineness of bone, with thick, broad and long low shoulders, full and in good proportion, with hind-quarters well flanked down, broad and full in round, well-meated to hock and gambril joint, with even top and bottom lines. The steer had small brisket in proportion to size, and was better filled behind the arm than his competitors.

The second premium steer "Cullom" was a very superior animal, rather heavier in head and neck than the animal awarded the first premium, not as well filled in loins and forequarter, or as smooth as the steer Booth of Vermillion, voted the first place."

Of Short-horn steers between 2 and 3 years, the first went to Boynton, exhibited by J. B. Sherman, and 1,064 days, weight 1,815 pounds, and average gain since birth 1.70; and the second to Belmont, same owner, aged 908 days, weight 1,825 pounds, gain 2.01.

In class under 2 years, Corporal, owned by J. S. Highmore, gained first prize. He was 721 days old, weighing 1,590 pounds, a gain per day of 2.20 pounds.

In Short-horn cows the first prize went to W. Scott's Forest Queen 2d, age 2,136 days, weight 1,710 pounds, and second to Grand Chunk, age 4,266 days, weight 1,455 pounds, owned by R. G. Dun, of Ohio.

In the Hereford class T. L. Miller took the prize on cow Maid of Orleans, 1,350 days old and 1,720 pounds weight; and first and second on steers between two and three years per Mill and Washington, aged respectively 866 and 864 days, weighing 1,650 and 1,700 pounds, and showing a daily gain since birth of 1.91 and 1.92 pounds. The prize for Hereford steer under 2 years was given Advance, owned by G. S. Burleigh, aged 710 days, weighing 1,115 pounds, and showing an average daily gain of 1.57 pounds.

In Devons, for steer between 3 and 4 years, the first and second prizes went to Major and Broad, bred by T. Bidwell, aged 1,305 and 1,355 days, weighing 1,270 and 1,170 pounds, and showing a gain per day of .97 and .89 pounds respectively.

In Devon steers between 2 and 3 years there was but one entry, Honest Tom, belonging to L. F. Ross, age 849 days, weight 1,250 pounds, and daily gain 1.46 pounds.

In the sweepstakes for grades and crosses, 3 years old and under 4, the first premium was awarded to the grade Short-horn steer Morrow, 1,046 days old, weighing 2,030 pounds, and showing a daily increase of 1.94 pounds since birth. He is owned by J. H. Graves, of Chilesburg, Ky. The second premium was awarded to the grade Hereford steer Mossy Coat, 1,310 days old, 1,875 pounds in weight, and showing a daily increase of 1.43 pounds. He is owned by C. M. Culbertson, Chicago. The report of the committee is as follows:

"The large number of choice, well-matured steers entered in this ring were as a lot in prime condition for the block, reflecting much credit upon the breeders and feeders, who are worthy of the highest commendation. There was scarcely a medium animal in the ring, and for such maturity were remarkably smooth steers, free from bunches or patches on any part of the carcass. Among so many superior thick-meated, well-proportioned, evenly-mated bullocks, it was very difficult to make a decision; all gave evidence of vigorous health and good feeding qualities. The first premium steer was fine in bone, with smaller head in proportion to weight than his competitors, with short, neat

neck and handling qualities that gave assurance of a larger percentage of choice meat to gross weight than in any of his rivals. This steer had straight top and bottom lines, heavy well-proportioned quarters, broad, long and deep loin, smooth, wide, well-filled rump, was let down in flank and twist, and thickly meated down to hock and gambril point. A better proportioned steer, more evenly covered with thick meat in the most valuable portions of the carcass, is seldom seen.

The second premium steer was a most worthy rival to the animal awarded the highest honors in the ring, and the broad back, thick loin, extra-well-filled rump, went far to make up for the want of proportion between the heavy fore and corresponding light hind quarters. The second premium steer was not as smooth as the first prize-winner, and was heavier in head, horn and neck."

For the best steer, 2 and under 3 years, first premium, A. F. Moore, Polo, Ill.; second premium, J. H. Potts & Son, Jacksonville, Ill.; both Short-horns. There were twenty entries.

Best steer, 1 and under 2 years, first premium, D. M. Moninger, Albion, Iowa; (Short-horn;) second premium, T. L. Miller, (Hereford.)

Best cow, 3 years old or over, first premium, H. S. Bassett, Jefferson, Ill.

Twenty-seven animals, of all ages, the victors in their classes, formed the "grand sweepstakes ring," for the best steer or cow in the show, which has never been equalled in this country. It took the judges over an hour to decide as to which was entitled to the blue ribbon. It was finally awarded to the big Kentucky steer Nichols, owned by Mr. Graves, of Chilesburg, Ky. T. L. Miller, Beecher, Ill., however, entered a protest against the award, on the ground that last year this steer carried off the challenge prize as a thoroughbred; but his breeding was so uncertain that this year he was entered as a grade Short-horn. The protest was entered, and the judges proceded to select another steer in case this protest should be sustained.

Mr. Graves, before entering the steer, had gone before the board and exhibited the certificate which he got when he bought him. It stated that the steer was a pure-bred Short-horn; but he confessed that he had become convinced that the steer was a grade, and as he had carried off the challenge plate last year as a full-blood Short-horn, he would return it as the only reparation which he could make. On this the board, after a careful examination into the merits of the case, decided that this steer was eligible to be shown in the grand sweepstakes, and this decision holds good pending Mr. Miller's presentation of evidence going to show a fraudulent entry.

In the "Early Maturity" class the prizes were as follows:

Steers, 3 and under 4 years; premium, silver cup, J. H. Graves, Chilesburg, Ky.; (Short-horn;) thirteen entries.

Steers, 2 years and under 3; premium, silver cup, T. L. Miller; (Hereford;) eleven entries.

Steers, 1 and under 2 years; (Short-horn;) premium, silver cup, Cobb & Phillips, Kankakee, Ill.

In the "car-loads," Mr. Gillett carried off all the awards for cattle three, two and one year old, except the second on three-year-old, which went to Willard & Sons; (Short-horns.)

In the "slaughtered cattle," class of three-year-olds, there were three entries, comprising C. M. Culbertson's grade Hereford steer, Mossy Coat; J. D. Gillette's grade Short-horn steer, Chub; and T. L. Miller's Hereford steer, Alex. Mr. Culbertson's steer showed the largest percentage of dressed to live weight, and Col. Gillette's steer next, falling behind only seven-tenths of a pound per hundred. The committee, however, awarded the premium to Mr. Miller's steer on account of superior quality of meat, though the proportion between weight on the hooks and on foot was considerably less. In the 2-year old competition there were two entries: J. D. Gillette's grade Short-horn, Blank, and T. L. Miller's grade Hereford, Putnam. The premium was awarded to Col. Gillette's steer, for both the highest percentage of dead to live weight and superior quality of flesh. In the yearling contest there were two entries: G. S. Burleigh's grass-fed Hereford Short-horn steer, Maural, and a steer belonging to Col. Gillette, which proved wild and was slaughtered in advance, so that there was no competition. The committee, however, adjudged Mr. Burleigh's steer worthy of the prize.

The Chicago papers say there was quite a noticeable difference in the appearance of the carcasses as they hung from the hooks. Mr. Culbertson's steer showed the effect of concentrated food, such as gruel and oil-cake. The flesh was highly colored, and there were large accumulations of fat both outside and inside. Col. Gillette's little steer showed that he had not been confined to narrow quarters or forced, but had been brought up on the best of all feed—blue grass. The meat was beautifully marbled, and the carcass dressed up white and clear. Mr. Miller's steer had a soft, fleshy appearance, indicating that he had been fed according to the English system on roots, turnips, oil-cake, etc., a forcing process. Mr. Burleigh's yearling showed the effects of a system of forcing in the large proportion of fat to lean for an animal of his age. Mr. Dunn's challenge cow, Grand Chunk, made a fine appearance on the hooks. She had but little inside fat, as is usual in fattened breeding cows.

Pleuro-Pneumonia at the West.

During the Fat-Stock Show at Chicago a meeting of farmers, stock men and others interested was held in that city to consider the subject of the best means to be taken to secure action by the national government looking to the extirpation of this contagious disease. It was conceded on all hands that the work could be done only by such agency as Congress should establish; and a committee was appointed to express the sense of the meeting, after a number of speeches had been made and a general interchange of views had among those present, among whom were included a number of congressmen. The committee reported the following preamble and resolutions, which were unanimously

adopted, and copies ordered sent to the Senate and House Committees on Agriculture:

Whereas, The contagious pleuro-pneumonia of cattle exists in several of the States of the Union bordering on the Atlantic seaboard; and,

Whereas, It is evident that as long as unrestricted traffic in live cattle is permitted between these infected States and those not infected, the live-stock interests of all sections of our country are menaced by a terrible danger; and,

Whereas, The state of things above indicated has resulted in the adoption of regulations by the British government which seriously interfere with our export trade in live cattle with that country, thereby entailing great damage to all cattle-raisers and feeders in the United States; and,

Whereas, In view of the decisions of our State and federal courts, the States, acting as such, are powerless to stamp out the contagion as long as it exists on its borders in an adjoining State; therefore,

Resolved, That it is the imperative duty of Congress to enact such a law as shall effectually prevent the spread of the disease into States not already infected, and which shall result in its entire extermination at the earliest practicable date.

Resolved, That, as an important preliminary step, we heartily second the recommendation made by Judge Jones, of Ohio, to the President of the United States for the appointment of one or more veterinary inspectors, who shall definitely ascertain and designate the infected regions.

Resolved, That we recognize the bill introduced into the House of Representatives at its last session by Gen. Keifer, of Ohio, as embodying the essential features necessary to an intelligent and efficient supervision of contagious and infectious diseases of live stock generally on the part of the federal government, and that we heartily recommend its passage, with an additional provision which shall clothe the commission with authority to prescribe rules and regulations under which the live-stock of any infected State, territory or district may be transported or taken therefrom; and under which live-stock may be transported through such infected State, district or territory; or, in their discretion to prohibit absolutely the transportation of live-stock from or through such infected district, when, in their opinion, the same shall be essential to the general safety.

Resolved, That we further recommend that petitions be prepared and circulated in all parts of the country, and presented to Congress, calling attention to this subject, and urging favorable consideration for the measures proposed in the foregoing resolutions.

Hogs and Sheep on the Eastern Shore.

A farmer in Talbot writes the *American Farmer:*

I have given up the Berkshires except to cross with. Their meat is the best decidedly, the offal the smallest in proportion of any I have handled; but oh! these buts—they won't hold their own out in the clover-fields against the cross with the Chester. The crossed animals always keep in the best condition on the same feed, and the pigs sell better, are more hardy and grow faster. As I don't like the meat of confined animals, I never tried keeping them up in pens. I have just sent to Chester Co., Pa., for a young boar, and will probably get another Berkshire next time.

As the dogs let me alone last year, my sheep paid more than one hundred per cent. profit! Think of that! But I have been obliged to reduce the flock heavily. As soon as I went over forty ewes, it commenced to deteriorate rapidly, and I will go back to thirty, carrying say ten ewe lambs over every year, and culling out the same number of the oldest ewes, till I get the shape and size I am after. I got an average of six pounds wool last year, which I sold at forty cents per pound, but less than eight pounds will not suit me. I want to reach ten, even if I have to use one cross of Cotswold to do it. I have used three Shropshires, and have a very handsome young Shropshire now for this and next year.

About Bulls.

There seems to have been a sort of epidemic of ugliness among bulls this season. We scarcely pick up an exchange without finding an account of some one having been injured from an attack by a vicious bull, and in almost every case it is stated that the animal had previously been uniformly gentle and docile. Of course "bull nature" has not changed materially, but somehow or other we seem to have had an unusual number of cases of this kind reported during the last few months. The fact is, there are none of our domesticated animals so unruly, so treacherous, and so dangerous as the bull; and no bull should ever be trusted without a ring in his nose, so that he may be easily controlled. No one can ever tell when the vicious nature of a bull may show itself; they are as treacherous as any animal, even of the feline race, and their proverbial sullenness may at any moment break out into positive viciousness. No breeder should permit himself to imagine that his bull will prove an exception to the rule, and we recommend that in every case the ring should be put in the beast's nose by the time he is a year old. And then, upon the very slightest indication of temper, a strong staff with a snap attached, should be provided and used whenever the bull is to be handled. Jersey bulls are, we think, more apt to prove vicious than those of any other breed, and none of them can safely be trusted after they are full grown. The only safety consists in believing them *all* unworthy of confidence and in treating them accordingly. Unlike nearly all other animals, the bull has no affection for anybody; and when the fit takes him he is quite as likely to attack his atttendant, no matter how kind he may have been, as an entire stranger.

PRINCE WILLIAM, VA.—Wheat is looking well; corn-houses are overflowing. Hope the farmers will soon be out of the woods. The new subscribers I send are a better start than usual, and I hope to get up a club more nearly approximating the merits of the old FARMER than heretofore. W.

Pyrethrum for the Screw-worm.

One of the most important discoveries incidental to the work of the U. S. Entomological Commission which was made during the year is that Pyrethrum may be successfully employed against this pest also. Prof. J. P. Stelle, one of the agents of the commission, thus writes from San Marcos, Texas:

I have just made a discovery that cannot be otherwise than of vast importance to Texas: Pyrethrum is a never-failing remedy for the notorious screw-worm. The application is made by simply dusting a little of the dry powder over the sore; the worm being an air-breather, soon takes in the effect and dies.

Up to this time the remedies for screw-worm in Texas have been either arsenic or calomel. The former always leaves a serious sore, while the latter often does the same thing, and when applied to young calves always produces salivation. Pyrethrum leaves no unpleasant effects.

Economy of Full Feeding for Milk.

Large yields of milk must necessarily, says the *National Live-Stock Journal*, be the result of a large quantity of food consumed,—for the cow cannot create milk out of nothing. She is not a miracle-worker. But does it follow that a large product of milk costs more in proportion to quantity than a medium yield?

Now, the cow must be supported before she gives any milk. After this food of support, all the food she consumes must go to the production of milk or flesh, and if the cow is a good milker it all goes to milk; in other words, after the food of support the extra food all goes to profit—that is, either to milk or flesh. And it is equally clear that all the food consumed to support the system of the animal is lost until the point of production is reached. After the producing point is reached, the more the animal can eat, properly digest and assimilate, above this, the greater the profit. This would seem to be too plain to require illustration. What would any one think of a manufacturer who used a steam engine for power, who should say that he could not afford to furnish fuel to get up full steam because the last half of the steam cost more than the first half. Now, if there is only fuel enough used to heat the water just below the boiling point, it will consume a good deal of fuel to do this, but no power will ever be produced by it, and this fuel is all thrown away. The fuel required to keep the water heated up to 200° only requires 50 per cent. added to give 100 lbs. steam pressure and set the machinery all at active work. It is evident that if only half steam is produced it costs fully three-fourths as much as full steam, and consequently all the work that is done with this half power is done at an additional cost.

Just so, when the cow is only fed so as to produce a half yield of milk, it costs more than three-fourths as much as a full yield, and the half yield is produced without profit, or even at a loss. Now, to produce steam most economically you must have a well-constructed boiler and engine; but whatever the boiler may be, it costs less in proportion to work to run it to its full capacity than to half its capacity. So, if you desire to produce milk at the least cost, you must select cows with the capacity to turn the largest amount of food into milk—the larger the amount the more cheaply will the milk be produced. Of course the best cow is the one that can digest and assimilate the most food, and turn all the extra food into milk, instead of laying on flesh and fat. It is the business of a skillful dairyman to select such cows, and then make full use of their machinery to secrete milk, by full feeding.

Heating Milk for Winter Setting.

Heating the milk of small dairies in winter is very necessary where the temperature of the milk-room is much below 60°, for thin bodies of milk will raise very little cream with the temperature at 50° or below. Heating the milk to 130° or 140° will cause nearly all the cream to rise while the temperature is falling to 50°.—Cream rises faster while the temperature of the milk is falling. If heated milk is set six to ten inches deep, in a room at a temperature of 45° to 50°, it will take several hours for the temperature of the milk to fall to 90°, and the cream will principally rise during this time. But heating milk in winter serves other important purposes. Heating is a purifying process. It drives off all bad odors or taints it may have taken from the condition of the fodder or odors of the stable. All dairymen are not aware of the danger of tainting the milk, in winter, from the cows standing in an impure atmosphere, or of eating mouldy fodder, or drinking water from a well that has received the droppings from the barnyard. Heating purifies the milk from all these taints, or from a turnip or cabbage flavor. It must be set, however, after heating, in a pure atmosphere. It is found, also, that the cream from heated milk churns much easier in winter. The cream should be churned within 24 to 36 hours after skimming, and should not stand more than 30 to 36 hours before skimming. Milk is apt to become bitter by long standing in winter. It is supposed that our correspondent keeps his cellar clear of vegetables, as these would so charge the air with vegetable odors as to taint the cream and spoil the butter.—*National Live-Stock Journal, Chicago.*

Cotton-Seed Meal for Cows.

A correspondent of the *Country Gentleman*, replying to another who says he has "heard that cotton-seed meal is injurious to cows, and that it makes the poorest kind of milk," and, if this is a mistake, he wants to know what quantity to feed, &c., gives the following as dictated by experience and analysis:

The different opinions formed of cotton-seed meal are occasioned first by the great difference in quality. The undecorticated seed has the tough, flinty rind left in, which is more indigestible than corn-cobs, and when this is fed in large quantity it is not likely to give very good

results. But decorticated cotton-seed cake ground into meal is a wholesome food for cows in proper quantity. Second, great mistakes have been made in the quantity fed to cows. This meal is very concentrated food, and is more insoluble in boiling water than linseed meal, and not as easily digested as the latter. It is too concentrated to feed alone, and here is where the greatest mistake is made. It should be fed with hay or straw chaff. If one quart of the meal be fed with six to eight quarts of cut hay or straw, the whole slightly moistened so as to cause the meal to adhere to the hay, it will get the benefit of the macerating process of the rumen, be raised with the cud of hay and all remasticated together; and in thus passing through the stomachs of the ruminant it becomes thoroughly digested and ready for assimilation.

Dairymen are quite too much accustomed to give rations of a single food, instead of combining foods of different qualities, so as to make a well-balanced ration. It has been found from careful experiment that cows fed wholly upon clover, yield milk of an inferior flavor and quality to that produced from a variety of grasses; and yet clover is one of the best foods for milk. Linseed cake or meal, fed in too large a quantity, gives cream and butter of an inferior flavor, and the latter is likely to be soft and of poor grain.

Let us look at the chemical composition of cotton-seed meal, as compared with clover, timothy hay, corn fodder and straw, with maize and oats.

		—Diges. Nutrients.—				
	Water.	*Albuminoide.*	*Carbohydrate.*	*Fat.*	*Nutritive ratio.*	*Ash.*
Cotton-seed meal....	7.2	33.2	17.6	16.2	1.8	5.8
Clover, just before blossom.....	14.3	6.7	38.8	0.8	6.1	7.3
Timothy, do.	12.5	4.4	43.6	0.8	10.4	4.3
Fodder corn, green..	25.0	2.7	38.9	0.6	14.9	4.3
Oat straw..... ..	14.3	1.4	40.1	0.6	29.9	4.0
Maize, grain.....	14.4	8.4	60.6	4.8	8.6	1.5
Oats do.	14.3	9.0	43.3	4.7	6.1	2.7

It will be seen that the albuminoids or muscle-forming elements in cotton-seed meal are equal to five times that of clover hay, and nearly eight times that of timothy hay; four times that of corn meal, and three and three-fourths times that of oats. Now, if we mix one pound of cotton-seed meal with eight pounds of oat straw, we shall have 4.93 per cent. of albuminoids, 37.6 carbohydrates, 2.33 fat, and a nutritive ratio of 1:8.8, and it will be seen that this mixture is a stronger food than good timothy hay, so that 3 pounds of cotton-seed meal with 24 pounds of oat straw would be a better ration than 27 pounds of timothy hay. It is therefore plain that only small quantities of cotton-seed meal should be fed daily to cows. The writer experimented with this food, giving from one pound to five to each cow per day, and found that two pounds yielded the most profit. It was fed with good hay, and the experiment with each quantity lasted 20 days, the test being the quantity of milk and butter yielded during the 20 days in each case. All the hay was given they would eat in addition to the cotton-seed meal. The quality was not injured until the 4-pound ration was reached, and the quality grew poorer with 5 pounds. The quantity of milk and butter was increased up to 4 pounds, but not proportionally to the cost. For medium-sized cows, two pounds appeared to be the limit of profitable feeding of cotton-seed meal.

The result would have been different had it been fed with straw I have no doubt that the 5-pound ration would be profitable in the production of milk if the dairyman was obliged to feed straw with it. If 5 pounds of cotton-seed meal was fed with 25 pounds of straw, the ration would be richer than clover hay. An excellent grain ration for milk is 2 pounds of cotton-seed meal with 2 to 3 quarts of corn meal, and hay, with one feed of corn-fodder or straw. The dairyman should always seek variety of food in the ration for milk.

Oleomargarine.

The sale of oleomargarine has enormously increased of late, a large part of the product being sent to the Southern States or exported out of the country, to places where the law does not interfere to prevent its sale as the genuine product of the dairy. Very few people, even among butter makers and produce dealers, have any idea of the extent of the manufacture. The New York *Bulletin* has recently published a table of the weekly product of oleomargarine in the principal cities of the country, which shows the total amount to be at present 2,472,000 pounds each week, an average of 412,000 pounds for each of the six working days of the week, using every week over 5,000,000 pounds of fat. These figures seem hardly credible, but the *Bulletin* says they are obtained from authoritative sources, and are below rather than above the actual amounts. Boston is credited with the manufacture of 288,000 pounds weekly, and as it takes over two pounds of crude fat to make one pound of the finished product, it would seem as if, with the number of cattle at this market, there would be but a small amount of fat left over for other purposes, after the manufacturers are supplied. In spite of this competition, the price of fine dairy and creamery butter is more than fifty per cent. higher than it was a year ago, and even the lower grades, which would apparently be most affected by the artificial article, have risen almost in the same proportion.—*N. E. Farmer.*

Interesting Decision to Farmers.

The Circuit Court for Talbot county, last month, in the case of H. H. Price against T. H. Oliver, on an appeal from magistrate's judgment, arising out of a trespass of Oliver's cattle upon Price's enclosures, the court decided that no farmer was bound to fence against his neighbor's cattle, and that if any person allowed his cattle to run at large, or if his cattle get out of his own enclosure and trespassed upon another, the owner was liable for all damages committed. This is an important point of law, and one which farmers generally have been ignorant of. A farmer is bound to keep his cattle upon his own premises, or is liable to damages for trespass if he permits them to go at large.

The Poultry Yard.

By G. O. Brown, Montvue Poultry Yards, Brooklandville, Md.

1881.

In answer to several inquiries, I reply it is not probable that any change of location or business will interfere with my regular contributions to the *American Farmer's* poultry columns. I propose to begin in the January issue a series of short practical articles, styled Hints for Beginners, which will run through several numbers, commencing at the foundation of successful poultry-keeping, whether for profit or pleasure, and giving minute directions for establishing, maintaining and breeding a flock, including suggestions for houses, both of simple forms and small cost as well as some of more ample size and expensive character; economical devices in management, &c., following it up with such information as may seem to be needed by those who may be encouraged to continue as fanciers for the entertainment they may derive from breeding pure-bred fowls, and never omitting practical treatment of seasonable topics adapted to those whose objective point is rather eggs and meat and the returns to be found in cash therefrom. G. O. B.

December Chat.

Fowls will need special attention now. The cold weather has completely cut off the supply of insect food. All available meat scraps, refuse bones, &c., from the table should now be saved for the fowls, the latter crushed fine with a hammer on a large stone; the fowls will eat with a keen relish, and the diet will be greatly beneficial. It need not be understood that a meal of meat and bones, same as grain or mixed food, is meant. Such is not the case; but just enough, so that each fowl may get a little. Fresh water must not be neglected, even if it is cold; but in extreme cold weather the water should be given about milk-warm; and as soon as their thirst is satiated, the water dishes should be upset, to prevent the water freezing. Keep the birds active; make them scratch for exercise and their grain-food. It is a most excellent plan in cold weather to *warm* the grain-food, so that it may be given to them warm as late as possible before roosting time. This will necessitate a little extra trouble; but the double satisfaction to the true fancier of knowing his birds have a good warm supper, and retired for the night *without* shivering, as they certainly do when fed on *ice*-cold corn, *ought* to be enough to induce the extra trouble to be endured. But the good this attention results in is much more: the fowls will thrive better, lay more, and require less food. No matter if the corn gets a little parched sometimes; it is so much the better. An occasional feed of clover-tops, scraped from the floor of the hay-mow, the fowls delight to pick over during the winter. If so situated that they can scratch in the barnyard the cleanings from the stables, let them do it. Do not neglect the "green food"—cabbage or turnips—at least three times each week. You should now select such as you will use for breeding purposes next season, and separate them, giving them careful attention; examine them, and if signs of lice are discovered, grease well with sulphur and lard under the wings and over the vent. Do not crowd too many in one house, unless ventilation is good and the house is kept strictly clean;—the droppings being removed daily, then there is little danger of overcrowding. The spring pullets are mostly now laying, and with an *encouraging* diet can be induced to continue; and, at the present price of eggs, they pay a handsome profit on the extra care and food furnished to them.

Leghorns as Egg-Producers.

Though every one who has even the merest smattering of poultry knowledge has heard of some of the astounding feats of this breed, and seen occasional accounts of their wonderful records, we can assert that every flock or every member of a flock will surpass any single specimen of any other breed, but that, taken as a whole, they are incomparable. With a view of showing this more clearly, we shall give some of the most extraordinary of the many egg records which have appeared in the last six years. Some years since, in speaking of this breed, I. K. Felch says: "These fowls as egg-producers, in their original perfection, were truly marvelous. I have known of a hen of the last importation laying 159 days in succession, and have the assertion of a friend that one laid 275 eggs in one year; but the largest number of which I know personally, and which I deem very extraordinary, was 250. An average, in my experience, has been from 175 to 200 eggs. With good care, 200 eggs need not be despaired of."

In 1872, Mr. Lynde, of Marlboro, Ohio, gave the results of a series of experiments instituted for the purpose of ascertaining the cost of keeping and the fecundity of different varieties, as follows:

The fowls embraced in the following experiment were hatched between the 25th of February and the 1st of March. When they were six months old, I put ten pullets of each breed in yards 40 feet square, each yard containing a small warm house. These fowls were fed corn the first day, oats the second, and wheat screenings the third, then oats and then screenings, and so on for the entire time. The feed was put in boxes, always putting in enough so there would be some left at the end of the day. They were also given a little fresh meat as often as three times a week, plenty of water, and burnt bones. The first month (September) the

	Corn, Qts.	Oats, Qts.	Screenings, Qts.	Eggs, Laid.
Brahmas, Dark, ate	25	18	21	127
Cochins, Buff, "	28	22	19½	97
Dorkings, Gray, "	21	17½	16	101
Houdans, "	15	14	14½	142
Leghorns, "	13	12½	16	161

In the entire time (six months) the

	Corn, Qts.	Oats, Qts.	Screenings, Qts.	Eggs, Laid.
Brahmas ate	142	108	119½	905
Cochins "	160	132	114	591
Dorkings "	118½	100	91	534
Houdans "	93	61	60½	783
Leghorns "	74½	77	80	897

Mr. Lynde also states the cost of the food supplied each variety:

Brahmas	$4 90
Cochins	5 36
Dorkings	4 45
Houdans	3 34
Leghorns	2 97

From this we see that the Leghorns not only laid a greater number of eggs, but did so at less cost to their owner. It has become so universally acknowledged that Leghorns are the most prolific of all fowls, that it hardly needs this detailed statement of their recorded excellence to enable them to hold their enviable reputation. Still the figures are valuable as a proof against the aspersions of cavilers of any sort.

We will close this record with one which was sufficiently extended to enable us to gain very valuable ideas as to the power of this breed to sustain a high average through the year, and also on the average fertility of a large flock. The record is that of Mr. A. J. Tuck, and is as follows:

"A neighbor of mine has a flock of White Leghorn hens, concerning which he has furnished me the following particulars: He commenced his daily record of eggs on the tenth of last December, with three eggs, and up to the tenth of August—a period of just seven months—he had received from his flock 4,279 eggs. At the beginning of his record, his flock consisted of thirty hens and pullets, some of which did not commence laying until the last of March. During this time he has had two die, so it left him twenty-eight all told. Here we have an average of, in round numbers, 150 eggs per hen, in but little over half a year."

When we consider that in this flock of thirty all told, a number were pullets, which did not commence to lay till some time after the record was begun, it is probable that we should find—with a more careful record, crediting the pullets as members of the flock only as they began to lay—that the average was more nearly 175 than 150.—*The Leghorn, by Ayres.*

REMARKS.—The above we clip from that excellent publication, the *American Poultry Yard*. The experiment is, we think, hardly fair as the feeding of the different breeds was injudicious. We all know if Brahmas or Cochins have placedbefore them food more than they can and will eat up with relish, that there is a natural tendency to unduly take on fat, and *stop the laying of eggs;* while with the active Spanish breeds, corn seems to induce egg-laying. *Fanciers* have found it *profitable* to keep their Asiatics so they will always *run for their food.* We have from careful personal experience learned that the Asiatics are in a great many instances ruined by overfeeding. In some instances our customers have written us they have, say: "30 or 40 Brahmas, and we feed them *all the corn they will eat*, &c., but do not get many eggs." In one instance a flock of 34 were being fed *more* than we were feeding 180. In several instances I have recommended reducing the amount of feed one-half, and feeding oats and corn alternately instead of corn alone, and the egg yield soon doubled. The result of the experiment is about the proportion there would have been if careful feeding had been adhered to; as in each case there would have been more eggs with less food. G. O. B.

The Soiling System.

The regular monthly meeting of the Deer Creek Farmers' Club took place at the residence of Mr. Thomas Lochary, on Nov. 13th. Messrs. Moores and Munnikhuysen, of the committee of inspection, reported, saying that they did not know where to find a place which has been more improved than Mr. Lochary's, during the last year. He has done a great deal of grubbing, moving stone, &c., and all to a very good purpose. His cows and horses look well, and he has a remarkably fine lot of sheep. Also some fine Chester hogs—spring pigs—that will weigh 200 lbs. each. His corn appeared to be a fair crop, from 10 to 14 brls. per acre, and was grown without fertilizers of any kind, the same field being also in corn last year. His wheat looks well, being put in clean and in a nice manner. The subject discussed was "Soiling," and we take the *Ægis* report:

Mr. Lochary said he was in favor of the soiling system of farming. In pasturing we take up too much land to fatten cattle, besides losing a great deal of manure. If a farmer is well fixed, has good fencing, his fields well watered, and is a good judge of cattle, he may make money grazing. He would not advise such farmers to pull down their fences and soil their stock. But there are farmers who have not these advantages, and they could adopt the soiling system to advantage. Land that will yield 15 barrels of corn to the acre by fertilizing and cultivation, will pay better to crop or use for soiling than for grazing. One great advantage in soiling is the saving of expense of fencing. A farmer cannot take a farm, fence it well and improve the land, unless he has some other means of making money besides the farm. It is better to put money in manure than in fences. Mr. Lochary said it was estimated that where the ground is good a cow or steer can be kept on 1½ acres of ground, the year around. The tramping of stock is also a great injury to some lands. That would be avoided by soiling. The buildings required for the winter care of cattle could be made to answer for soiling. The labor of soiling cattle would not be a great deal. One man who could attend to 30 or 40 cattle in winter could attend to 50 in summer, because the days are longer. Much time and inconvenience would be saved by doing away with bars and gates. It takes a man two or three weeks after harvest to grub out the fence-rows. We ought to have corn, wheat or clover where these bushes grow.

S. B. Silver agreed with Mr. Lochary on many points, but thought he under-estimated the labor of soiling in comparison with grazing. He was in favor of soiling for one reason. When farms are fenced and cropped in rotation, we are often compelled to plow a portion which we would not do in soiling. In soiling would plant crops to succeed each other, and have four or five green crops growing at the same time. That would require more labor than grazing. Soiling

would save labor in hunting up stock; our horses would always be ready to go to work and would do more work. It might perhaps take less green food to fatten cattle, but the exercise a steer gets is good for his digestion.

John Moores said he could only give his opinions, and not the results of experience. In this county soiling could be put off a good many years, until our timber gives out. Soiling would require extra labor, but would make more manure. He did not think it would be necessary to furnish green feed, by mowing every day. Cattle will eat dry clover-hay as well as grass, and Mr. Moores believed it would do them as much good as green clover. They will eat hay all the summer if not allowed to go on grass. In drying only the water goes off, and that can easily be supplied. The labor of having green corn, rye or grass is very heavy. If you will explain how water will fatten animals, then I am in favor of soiling. Mr. Moores thought more stock per acre could be kept on a farm by cutting the feed and carrying it to the barn-yard than by grazing, but he would not haul it in the green state, but would cut, dry and haul into the mow.

Wm. F. Hays could see two things in favor of soiling—the saving of cost of fences and manure. There are also two serious drawbacks. Soiling requires a great deal of labor, and he doubted if animals could be kept as healthy confined in stables as when allowed to graze. There is a great deal of land which can be grazed, and it will be a long while before it can be made suitable for soiling.

Wm. Munnikhuysen thought that on small farms it is more profitable to soil; that is, to farm land, have fences out of the way and keep stock up. It is not profitable to soil sheep. They must be allowed to run and not be kept on one field long at a time. A small farm is not adapted to grazing, but where a man has land enough it is better to have fences and graze. Some land is benefitted by the tramping of cattle, and a roller would not have the same effect. Animals fattened in the stable the year around will not be as healthy or make as fine meat as those fattened by grazing.

Geo. E. Silver said there were several things in favor of soiling. We could do away with fences and have no filthy fence-rows. We could keep more cattle on 50 acres by soiling than by grazing. Thus men with small farms could do a large business, and soiling would be a source of wealth to the county. He did not see why a stall-fed animal should be inferior to one grazed, if the stables are supplied with fresh air and kept clean, as they should be.

Benjamin Silver, Jr., was opposed to soiling, and did not believe in the stories of northern farmers keeping 20 cows on 20 acres. There is too much work about soiling.

Horace Whiteford believed farmers could feed more cattle on a given amount of land by soiling than by grazing. It might pay by doing away with fencing, which is a tremendous cost. By doing away with fences, we could take the interest of that money and hire men to do all the feeding. Under our present management soiling would not pay.

James Lee believed soiling would pay, and agreed with Mr. Whiteford that by doing away with fences farmers could afford to pay for the extra labor required by soiling. A great deal of land, however, could not be used in that way.

The c ub adjourned to meet at Mr. E. M. Allen's, December 11th.

Our French Letter.

Messrs. Editors American Farmer:

Raising Veals in France.

It is an axiom in France, that when milk can be sold for three sous per quart, it will never pay to employ it to fatten calves; hence, in the vicinity of large towns, or in the case of farms having a reputation for their butter, the fattening of calves is not to be thought of. Only good milk can make good veal—always fine and white. A calf three months old, and weighing 3 cwts., is commercially more valuable than one aged 4 or 5 months, though weighing 4¼ cwts.; that is to say, the fat produced in the earlier months is the better. As the calf takes greatly after the mother, the latter ought neither to be too old nor too young. After calving, when the mother has licked her young, measures ought to be immediately taken to rear the calf by the bucket; during the first day of its birth it ought to be allowed to drink the mother's milk, which, at this stage, is laxative, and acts as a suitable purge; when milking into a small pail, and while the milk is warm, plunge the muzzle of the calf therein, introducing a finger at the same time into its mouth, as a substitute for the teat, having patience till it acquires the habit of drinking unaided. Pending the first week the calf ought to receive the milk three times a day, at fixed hours, and about two quarts at a time; the second week it ought only to be fed twice a day, morning and evening, but with the same total quantity of milk—six quarts per day or more; when a fortnight old, the ration of milk is to be increased by two quarts per day, and two more when the calf is aged one month. The calf ought to have a good bedding, placed in a tranquil corner of the shed, and not subjected to much light; it ought to be supplied with a wicker or wire muzzle, to prevent its eating fodder, and to be daily rubbed with a rather soft brush. Respecting maladies, if the calf is liable to become swollen, it is better to sell it at once; diarrhœa generally sets in at the commencement of the fattening; this, for French farmers, is never a source of uneasiness, as they maintain such calves when cured fatten best; the remedy is a drink composed of honey and water, with a little milk, in which is beaten up the yolk of an egg; at the same time, less green fodder is given to the mother. In Belgium, an infusion of silver weed or wild tansy successfully checks the diarrhœa. At the end of the fattening stage white diarrhœa occasionally sets in; this is due to the mother's milk; the mother ought to have an addition of green to her dry rations, the calf to be treated as if afflicted with ordinary diarrhœa, and if there be no improvement a veterinary should be called in. When eggs are cheap, 6 or 8 sous per dozen, many farmers give some

to the calves during the last days of their fattening. Up to the present all attempts to substitute "soups" for milk have failed to produce the rich, white and fatty veals so much sought after. Hay, meal, solutions of grease, &c., only produce red veal. In Belgium, when the calf is a fortnight old, it receives a soup made of 7 quarts of water, to which a little salt has been added, and five ounces of best baker's bread, cut in thin slices; a handful of the tops and leaves of nettles are thrown in, the mass being boiled down one-half, pounded into a pap; next is added three quarts of pure and the same of skimmed milk. Calves thus fed are reported to be exempt from diarrhœa.

Sewage of Paris.

What to do with the sewage of Paris is far from being settled. The quantity is too vast for irrigating purposes in the vicinity of the capital. In winter, land naturally saturated with the season's rain and melted snow does not require to be irrigated; also, the opposition is very fierce against sending the sewage into the Seine.

Upwards of 15,000 water-closets discharge their liquid contents into the river, for the solid matters are retained in special cylinders and carted periodically away, to be manipulated into charcoal manures. But the loss of urine destroys the chief raw material for the manufacture of sulphate of ammonia, a salt now recognized as indispensable for agriculture, as proved by the fact that some years ago it cost only 13 fr. per cwt. and now has risen to double that price. The gas companies will be glad at seeing their ammoniacal liquors deprived of a rival. The proposal for purifying the sewage by the addition of half a pound of lime per cubic yard of liquid would entail vast reservoirs and 100 tons of lime daily, and there is no proof that the latter would be purchased; further, while the addition of lime would clarify the sewage, it is not certain it would destroy many deleterious substances held in solution and that would subsequently decompose and generate miasmas. Sooner or later a main sewer must be constructed between Paris and the mouth of the Seine, where adjacent lands along the route could be supplied with the sewage as desired and the excess sent in the deep bosom of the ocean to be buried.

Analysis of Vines.

Drs Wagner and Prinz have determined what was hitherto untested—the nature and amount of mineral matters extracted from the soil by vines. They analyzed the stems, the prunings, the nipped-off creeping tops, the fruit, &c., to determine the quantities of phosphoric acid and potash carried away. Unfortunately their experiments did not include nitrogen. The proportion of phosphoric acid to the potash is, for the woody parts, as 30 to 100; for the fruit, 22 to 100, and for the leaves and summit buds 28½ to 100. For every 2 cwts. of the acid the vine carries off 8 cwts. of potash. Now, following the analysis of Wolff, 100 parts of farm-yard manure contain but 250 of potash, so that alone it is too poor as a fertilizer for the vineyard and ought to be supplemented in potash if the soil be poor in that salt. But the quantities of these two ingredients removed per acre are very much inferior to the proportions taken up by ordinary cultivated crops. F. C.

Paris, November 13, 1880.

Essex Pigs.

Messrs. Editors American Farmer:

With your permission I will give my views on this breed:

I wanted a pig that was not too large, but would weigh when 8 or 10 months old from 200 to 300 pounds and fit for the butcher at any time—in fact a breed easily and cheaply fed and with very little waste. For this purpose I selected the Essex, and find no cause to regret my selection, although I have been breeding them for some six years.

The Essex breed is preëminently the eastern farmers' pig,—black as a coal, (yet when dressed pure white,) with short legs, small head, "well-developed hams and shoulders," small bones, plenty of fat, with a quiet disposition, and a good feeder, suitable alike for the villager, small or large farmer.

Start them right by giving them milk and meal whilst young. Wean them when 8 weeks old. Cut the boars, and turn them into a good clover-patch with plenty of clean water, with an occasional mess of salt, ashes and sulphur, (for a blood cleanser,) and they can be finished off with some six or eight bushels of sound shelled corn by the first fall month, the very time to get the high prices.

This fall I sent a wagon-load of grade Essex pigs, fed in the above way, (being last March pigs,) to the scales, and they averaged 210 pounds net and sold for 6½ cents per pound, or ½ cents per pound over the market price then quoted.

The Essex boar makes a fine animal to cross on the large Chester or Berkshire, and this is the way I would counsel most farmers to do, as the cross has all the fine qualities of the male.

I would not advise any one, however, to buy this breed unless intending to feed with regularity, morning, noon and night, the right kind of feed, having clean, airy pens, good water, (which I consider very important,) manure cleaned out of pens once a week at least and dry bedding (leaves are best) in winter, and success is as *sure* as we can expect. Let any one follow this and he will be astonished at the growth of his *pigs* and the size of his manure-heap.

As our suburban population increases, as it surely must, any one engaging in this business in a *plain, practical* manner will surely meet his reward. S.

Baltimore Co., Md.

Work for the Month—December.

Whether the winter be as severe as the prophets foretell or not it behooves the farmer before the closing days of the year are upon him to have the work of the farm as nicely rounded up as may be and everything made safe and comfortable for any experiences which the season may bring.

The Corn Crop ought to be husked and stored away where no risk is run of depredations upon it, and fodder and husks be put away where they can be got at conveniently.

Tobacco.—The tobacco had better still remain unstripped for a month longer, except where the crop is large. Ground leaves should be hurried into market if not already in.

Plowing.—Opportunities will occur when soils of tough texture may be turned over, and such are benefitted in their mechanical condition and by the liberation, through the influence of the seasons, of their stores of plant food.

Drains and Ditches.—Be watchful that surface drains are not obstructed. Sometimes during this month chances will offer for making ditches.

Compost Heaps may readily be enlarged at this season, when materials of organic origin are abundant. Dead leaves, road scrapings, slops and waste from the house, the manure from the pig pens and chicken houses and many similar substances may be used to increase the supplies of plant food to be availed of in the spring.

Live Stock.—The continued drouth caused fall pasture to fail much earlier than common, so that we will all be obliged to look about us for the best possible mode of getting our live-stock comfortably through what must, of course, be a long winter. It is always mistaken economy of food to keep our stock on the pasture after it is dried up from repeated freezing, so that it is of little more use than the same weight of dried leaves. Would any engineer think of running an engine with old half-rotten wood, such as would never make the water rise to the boiling point? He might fire all day, yet fail to raise steam enough to do any work. What return would he get for the wood consumed? Just so is it with the farmer who compels his young and growing stock to live on such provender as contains only enough nutriment to make up for the natural waste of the system, without any surplus to make growth; therefore we should all try to feed so as to make growth every day, if we expect to get any pay out of it.

By the time this number of the *Farmer* reaches its numerous readers, it is to be hoped that they have all disposed of such old and unprofitable stock as will surely never pay for care and food given them; it is far better to sell the old *worthless* cows for what their hides will bring than waste grain trying to fatten them. Should they ever get fat, which is doubtful, they must be sold for a small price. Far better to give the grain that they would consume to good thrifty young stock, such as will surely command a good price when fitted for market.

It is scarcely worth while to say what we have so often repeated about milch cows: that a cow is like a closet. If we put plenty in we can always expect to get plenty out, but if nothing is put in of course nothing can be expected out. A good cow of whatever breed you choose must be kept warm during the winter, and liberally fed on good early-cut hay that has been kept out of the weather; also have a liberal allowance of bran or corn meal, or, what is best of all, meal and bran mixed, and some roots will also add greatly to the flow of milk. In many sections of this State it is difficult to get bran; in such localities crushed corn will be found to be a most excellent food for cows. We would not advise buying one of the corn-crushers that are so freely advertised with such flattering testimonials of the quantity they will do per hour; corn can only be ground, or rather crushed, cob and all, with success where steam or a good water-power can be used. A portable engine, such as will be idle after the threshing season is over, can be used to run a Nonpareil mill and do good work, and plenty of it, too. Thousands of dollars have been wasted by buying mills of the various patterns, said to do so much per hour with one horse or mule; they are all soon for sale as old iron. Crushed corn makes a good feed for young calves, or in fact for any stock that is kept on a farm but hogs; for them, if ground, the corn must first be shelled, and then do not grind fine.

If you have not stabling for all the stock that you can feed, lose no time in making straw sheds in some sheltered locality open to the south. In such sheep can be as well wintered, or perhaps better, than in a barn of the most expensive kind. If cattle are to be kept in open sheds, be sure to separate them in lots of about the same age and size, as the large ones will be sure to impose on the weak if kept together. Sheep should have racks, in which both corn and long food can be given, as they will not eat, no matter how good the hay, if fed on the ground; half the amount if fed in good racks will do them more good than when fed on the ground with double the quantity. One ear of corn for each sheep per day will be found enough for breeding ewes until after they have lambs. Brood sows should be kept in fair order, not fat; as they will be apt to raise more and better pigs, and not so liable to kill the pigs as when fat. If practicable it is always best to keep sows in a small wood lot, orchard, or such place, where they can get plenty of exercise at all times. If several are kept they must be watched to see that the old ones do not get cross and impose on the young and weaker ones. A hog will be a hog even if she has a pedigree and cost a long price when bought from some of our breeders of thoroughbred stock. A boar should never be allowed to run with any other kind of stock, as they are always liable to injure something with their tusks. Many valuable horses and cows have been killed by them. December is the month that most farmers kill their hogs. We would suggest the propriety of feeding them longer than usual this year, as corn is plentiful and relatively much cheaper than the hog product is. In many instances a lot of the best and most thrifty of the small hogs should be separated, placed in dry warm pens where they can be kept comfortable regardless of storm and wind; feed them till spring; they can then be sold and realize a fair profit for grain and labor, and give an extra dividend in the shape of first-class manure for next year's corn crop if plenty of straw and other suitable absorbents have been used; perhaps the increase will equal the amount fed to the hogs.

Orchard and Fruit Garden.

Planting can still be performed this month during mild open weather, when the soil is not too wet. It sometimes happens when trees are ordered from nurseries at a distance, that they arrive during a cold spell of weather; when such is the case, if it is freezing cold, a good plan is to dig a pit large enough to admit of the bundle going in entire, then cover up secure from air and frost until the weather moderates, when it can be taken out and unpacked without the contents sustaining any injury. Again, they may arrive when soil is too wet to plant properly, in which case they can be unpacked and "heeled in" in a trench, getting the soil amongst the roots as well as is practicable, and covering securely (the roots only) until the soil is in a proper condition, when the planting can go on. Young orchards should be looked after before winter advances too far, particularly apple and pear; and all "rubbish" in the line of dead grass and weeds removed from around them to the distance of one foot any how, to prevent mice from harboring there and girdling them. We have seen frequently stable manure thrown around trees in the fall of the year, and left remain until the following spring. This may serve as an easy way of enriching the soil where mice are not troublesome, but in most cases it invites them right to the place where they *can* do, and where they *do*, mischief that is visible to the intelligent orchardist in the weak growth of the trees the following season; but in many cases the nurseryman from whom the trees were procured is blamed for selling an inferior and unhealthy article. Hundreds of trees annually are so damaged by the bark being gnawed off the roots as to live only a month or two after leafing out.

In the fruit garden, the *strawberry* beds, in order to have them up to the standard next season, should have a light mulching of coarse stable manure. *Raspberry* beds also, particularly the red varieties, will be greatly improved by similar treatment. *Grape vines* can be pruned (if not already done) and secured to stakes or trellis. The canes that are removed can be made into "cuttings" eight to twelve inches long, tied in small bundles and buried in the ground, with earth enough over them to keep clear of frost, and left remain so until spring, when they can be set out in rows as per directions heretofore given by *The American Farmer*. Currant and gooseberry cuttings can be saved in same manner, and the supply of plants increased at little expense.

Beets and Beet-Sugar.

The new sugar-mill of the Delaware Beet-Sugar Co., at Riverside, a short distance above Wilmington, has commenced operations and is working up fifty tons of green beets per day. Last year the entire product of sugar beets in Delaware amounted to about 300 tons, but this season the company expect to obtain from three to four thousand tons of better beets than last year, the cultivation having been better understood. The beets already delivered are testing from 8 to 14 per cent. of saccharine matter, and the company are paying from $3.50 to $7 per ton for them. If they obtain the quantity of beets calculated upon, the product, under the new and improved process now in use in the new mill, will be about 550,000 pounds of raw sugar, 200,000 pounds of molasses, and 1,700 tons of pulp, which is now selling at the factory to farmers at $1 per ton. It is stated that some of the beets were allowed to remain in the ground too late in the season, and thereby were somewhat deteriorated for producing sugar. This, with other defects in the cultivation, will, it is stated, be remedied the next season.

James Wills, manager of Fairview estate, near Easton, Md., raised this year 1,200 bushels of sugar beets on three acres of land.

The Farmer Boys' Prize Contest.

George W. Gladden, son of Mr. Wm. Gladden, was one of the successful competitors for the Bond gold prizes for raising the largest quantity of corn on one-eighth of an acre. On four square rods of his patch he raised, according to a certificate from the judges, 351 lbs., or at the rate of 40 barrels and 40 lbs. to the acre. His mode of cultivation was as follows: A liberal coating of barn-yard manure sprinkled with plaster was first spread over the ground, about the first of May. The ground was then plowed and subsoiled. The corn was planted May 22, the rows being three feet apart and the corn one foot apart in the rows. A compost of Peruvian guano, bone and plaster, mixed, 200 lbs. in quantity, was applied on the 20th of August. The corn was well worked all the time, and irrigated once a week. This was done by plowing a furrow from a branch to the patch. The entire yield was 1,533½ lbs.

The Chadd's Ford (Pa.) Farmers' Club, following the example of Mr. Bond, offered premiums, amounting to $100, to the farmer boys of Chester and Delaware counties, Pa., for the best corn crop grown on one-eigthth of an acre. Forty-two boys engaged in the contest. The largest yield was produced by J. C. Levengood, of Honeybrook, who had at the rate of 182 bushels of 70 lbs. to the acre. The prizes were awarded as follows: First $25, second $15, third $10, and $5 to each of the next ten best. In the recent Harford county contest the largest yield was by Adam Horn, Jr., aged 16, who raised 1,626 lbs. on one-eighth of an acre, or at the rate of nearly 186 bushels of 70 lbs. each to the acre.—*Egis.*

MARYLAND DAIRYMEN'S ASSOCIATION.—The annual meeting will be held on Monday, December 6th, at 10.30 A. M., at the office of *The American Farmer*, Baltimore. The annual election of officers will be held and business of importance, as touching the future of the association, presented.

MILLET.—A Montgomery farmer writes: We are now feeding our cattle on a crop of German millet, and are greatly pleased with it. We do not, of course, think it is equal to good early-cut clover hay; but they eat it in preference to timothy hay of the best quality, and seem to thrive on it.

Horticulture.

Fruit Crops of S. E. Virginia—Pear Blight.

At the fall meeting, held November 6, of the Norfolk Horticultural and Pomological Society, the president, G. F. B. Leighton, delivered an address on topics of interest, a copy of which he has kindly sent *The American Farmer*, and which we give below:

It has been our custom at the fall meeting to allude to the trucking and fruit interests which have closed upon us.

The trucking interest has been somewhat checkered by drought and the presence of an unusual multitude of destructive insects, probably the result of last winter's mildness, but upon the whole there is little ground for complaint.

In fruits, the strawberry crop was injured by drought, and unusual heat attending the picking season. Much damage was sustained in transportation.

In apples we have been less favored than our northern sections, yet can note about a half a crop.

In pears we have been particularly unfortunate. The Duchese d'Angouleme, so admirably adapted to this section, was completely destroyed by the freeze of March 25th, the buds having been burst from previous unseasonable heat.

The buds of the Bartlett's and Clapp's Favorites were not open; they were spared for another casualty.

The cutting wind of the last night of April, although not below thirty-nine degrees, caused a degree of twig blight unknown in this section for many years. This form of blight made its appearance within two days after the wind, attacking the heaviest fruited trees with the greatest severity.

Several years since I was advised of a pear orchard in Louisiana of 500 trees that was passing out of bloom, presenting a remarkable degree of health and vigor when a northerly wind set in lasting some two days, with temperature above the frost point, and within ten days the leaves were brown and the bark showing signs of shriveling—the orchard in fact ruined. Does common sense point in the direction of insects in these cases?

Each additional year's experience more fully confirms the belief expressed by me on former occasions, that the sap-flow is interfered with by the sudden changes in the temperature.

I am able to tell within twenty days when to expect the appearance of the other form of blight, which attacks the limbs and trunks of the trees. At least I have not failed to do so for the past eight years.

In this section we have a spell of hot weather usually about the last of April or first of May, followed by a spell of hot days and cool nights. Whenever there is more than thirty degrees difference of temperature between the days and the nights you can surely look for blight within twenty days thereafter.

I am anxious to learn if this holds good in other sections of the country, and invite the attention of pomologists in the different States as to the correctness of the theory. If so, the insect tribe may be relieved of much blame.

Some advocate that the last form of blight originates in the roots of the tree; but after having carefully dug up at least a half dozen blighted trees, and finding their roots bright and sound, I have no grounds for entertaining that theory. As the plant and tree sap is more susceptible of changes than the blood of the human system, for the want of a better mode of expressing myself will say that blight is a disease induced by congestion of the sap occasioned by sudden changes in the temperature after the sap has been set in vigorous motion by a previous heated term.

Among the troublesome insects of the season, I desire to call attention of the pear growers to the twig girdler.

They are cutting the limbs more generally this season than since 1871.

The twigs cut by them should be gathered up and burned, as each twig contains many eggs, which, if allowed to remain upon the ground, will give a vast increase another year.

A single female is capable of cutting from twenty to fifty limbs, and as each limb is stocked with from five to ten eggs, the increase with a mild winter can hardly be estimated.

They are fond of pear, hickory, persimmon and sometimes the elm.

Several specimens of this twig girdler, a beetle of greyish-color, were exhibited by the president, as well as several twigs cut off by them. These twigs were cut as smoothly as if cut with a saw.

Quince Culture.

Messrs. Editors American Farmer:

The cultivation of the Quince is believed to be quite limited in the United States, and our authors and writers on fruit culture seldom refer to it; and why, we are at a loss to conjecture—for "the golden fruit of the Quince," when properly grown, commands almost fabulous prices. As a home luxury, what can be more luscious and palatable when variously cooked and preserved?

The tree is quite hardy, and may be allowed its natural bush form or trained and pruned as a tree. Many sections of our country are congenial to its propagation and adapted to its culture.

This fruit was held in high favor by the ancients, who regarded it as emblematic of love and happiness. Pliny tells us how it may be kept for winter use. It is thought by some to have been the forbidden fruit of the garden of Eden.

Its Uses.—The Quince is valuable for drying, for marmalades, jellies, preserves, &c. What is known as *Quince Cheese* is made of Quince marmalade boiled down firm as cheese, and can be cut in slices, and is generally preferred to the best marmalade. The farmer's wife ever keeps a sharp lookout for her supply of this, at present, comparatively rare but healthy fruit.

Origin and Description.—We furnish the following information gathered from different sources and from our own experience:

QUINCE.—The fruit of the *Cydonia vulgaris*, so named from Cydonia, a town of Crete, famous for abounding with this fruit. One species is of an oblong shape, from which, probably, it has its French name coin or coing; Armaval-coreign, the cornered-apple or wedge-apple, G. quitte or quitte napfel. The Quince-tree, *Pyrus Cydonia* of Linnæus, but which is considered by Miller and other botanists as a distinct genus of fruit trees under the name of Cydonia, consists, according to them, of three exotic species, namely: 1. The oblong or Apple-quince, the fruit of which is pear-shaped and lengthened at the base. 2. Maliformis, or Apple-quince, having oval leaves, which are of a woolly texture on the lower side. 3. The Lusittanica, or Portugal Quince, which has oval leaves, which are of a woolly texture on the lower side. 3. The Lusittanica, or Portugal Quince, which has obverse, oval leaves, somewhat woolly on the upper side. All these species are cultivated in Europe and to some extent in this country. The two varieties principally cultivated here are the "Apple or Orange," a large bright yellow Quince which ripens in Virginia all through September and the early part of October, and the Portugal, longer in shape, lighter in color, and a little later than the other. The former is most esteemed and cultivated. The third variety, or French Quince, is used by nurserymen for stocks to dwarf pears, but not cultivated for fruit.

Propagation.—The Quince is easily propagated by grafting and budding, by seeds, layers, or cuttings, but the last method only is calculated to produce the greatest abundance of delicious fruit.

Its Range and where it will flourish.—From reports we have received, and from various private communications from different quarters, it is proven that the Quince has a wide range and will flourish in many of the States. The Quince delights in a moist, deep soil; but the best soil seems to be a moderately rich clayey or gravelly loam—moist, but not wet. It will, however, do about as well on dry gravelly ridges and cool situations near streams. In the Northern States, Mr. Cole says: "A warm soil and location are necessary to ripen the Pear and Portugal varieties." He also says: "Manure *well*, using the same dressing as for other fruit trees." We infer from what information we have gathered, that the Middle States are the peculiar home of the Quince, but it is also evident it flourishes well in many parts of the South and in several of the Western and Northwestern States. In fact Quinces will do well and may be abundant wherever planted in most of the United States; and if they are scarce, it is from lack of culture and attention.

How to Plant and Prune.—Mr. M. P. Auger, pomologist, says: "Plant in deep, rich, moist soil, one rod apart each way, and prune so that proper culture can be given. Fertilizers suited to the Pear will answer for the Quince. For the last four or five years I have applied my refuse brine to my Quince bushes, resulting in vigorous growth and abundant fruitfulness. I pour it in early spring, as soon as the frost is out of the ground, a few feet from the bushes, about six quarts to each plant."

Our American authors on fruit culture seem to have but little practical knowledge of the Quince and its culture. We are desirous that more general information on this subject should be disseminated among our farmers. We may advert to this subject again in a future No. Whether from its scarcity or the esteem in which it is held, this fruit, in any shape, always commands a high price in market. This should favor increased production, and by that means add to the comfort of our people and to the profits of the farmer. J. FITZ.

Keswick, Albemarle Co., Va.

Cultivation of the Strawberry.

Messrs. Editors American Farmer:

Perhaps no other fruit has improved under cultivation as has the strawberry; this can be more forcibly illustrated by placing the small wild varieties growing in the woods and meadows by the side of some of the large varieties now being cultivated, although great size and productiveness have been secured. I question if much has been gained in flavor,—many of the mammoth kinds growing under cultivation being insipid and lacking the delicate aroma of the wild sorts of other days. The great aim of those who are engaged in producing new sorts is to secure a berry which combines good size, productiveness, flavor and firmness; nature, however, is loth to bestow all the good qualities upon one variety, and as a result but few have stood the test of varied soils, climate and cultivation. A berry which succeeds admirably in one locality is often a total disappointment in another. The list of varieties is a long one, and a professional fruit-grower is often at a loss in making selections. The list which I give below contains the cream of the strawberries so far as my experience goes.

SHARPLESS SEEDLING.—This is properly called the king of strawberries, combining great strength and size of foliage and fruit. It contains more large specimens than any other kinds in cultivation—30 berries often filling a quart. It is very firm, productive, hardy, and of first-class flavor; color, a deep red, with waxy surface, irregular in shape, often coxcomb; should not be allowed to set too thickly, and when runners are kept cut it makes larger stools than any other variety.

WILSON'S ALBANY, known from Maine to California as one of the most reliable and profitable sorts in cultivation, unequalled for shipping, and adapted to almost any locality. It is the best berry for the South; and as I there saw it growing stools naturally, throwing off but few runners, and often forming crowns 1½ feet in diameter. It is, however, sour and coarse, and will in time be superseded by a better-flavored; but I doubt by a better shipping berry.

CHAS. DOWNING.—This berry, like the Wilson, is a standard sort with us and combines many excellent qualities, being of good flavor, size and color, regular shape and very productive;

succeeds on a variety of soils and has few equals for home or market.

MINER'S GREAT PROLIFIC, a superb large variety, averaging as large as the Sharpless, although here and there a specimen of the latter can be found much larger. It is uniform in size and continues in bearing a long time; color that of a full-ripe Chas. Downing, which it resembles somewhat, but is quite distinct from it; very productive and of good flavor; foliage clean, healthy and luxuriant; it has a glossy green cap which holds firmly even when full ripe; it is *moderately firm and a pretty good shipping berry.*

CRESCENT SEEDLING.—This is perhaps one of the most wonderfully productive berries ever introduced. Its merits consist in adapting itself to all sorts of soils and conditions. If given a chance it will occupy every available inch of ground, and hold its own against almost all kinds of weeds and grasses. I have been favorably impressed with this berry both on my own grounds and elsewhere; for a near market variety it has no equal, on account of its ease of cultivation, productiveness and beauty, being one of the handsomest berries in the crate I ever saw. Much has been said and written in denunciation of this variety, on account of its softness and acidity. I would here say that it is red before it is ripe, and of course is then sour, but if left until matured it is of good sprightly flavor, superior to the much-lauded Wilson. I shipped them to New York last season and it *stood up* well as compared with the Wilson, as also did the Cumberland Triumph; it is medium in size, of a bright red color, with glossy green cap. Being pistillate it should have some strong staminate sorts planted among it,—say every fifth row.

CUMBERLAND TRIUMPH, a magnificent and uniformly large berry, as regularly shaped as pippin apples, of rather a pale red color and a little soft. It is a splendid grower and makes enormous stools. It will bring the highest market prices, ripen medium early, and continue bearing ten days after most other sorts were gone; flavor good and is very productive, and withal the most profitable berry grown on my place last season, yielding at the rate of 5,000 quarts to the acre.

KENTUCKY LATE, one of the very best late varieties, adapted to quite a variety of soils; of good flavor and very productive; a bright scarlet, long, irregular berry, healthy and hardy; should be more extensively planted; it is very firm and of good size.

DUNCAN AND DUCHESSE are early and of good size and flavor, resembling the Wilson so closely as to be hardly distinguished from it. They are far superior to it in flavor, however, but are not as productive.

CINDERELLA, CENTENNIAL AND PIONEER, represented as very early and productive, are a failure with me,—bearing a large crop of blossoms and but little fruit.

MONARCH OF THE WEST.—Much excitement was created among fruit-growers by this berry several years ago, but has died out in this section on account of its tenderness, shy bearing, green tip and lack of good shipping qualities. It is a failure on sandy land; but if given good culture and good rich soil it produces as fine and large berries as any. It is showy in appearance and of first quality. But enough of varieties: there are altogether too many. It is best to give them all a trial on a small scale and select from the number two or three and stick to them. Several have inquired of me the best time to plant. If at the South, October and November; if in this latitude and the North, March or April. The ground should either be broadcast with well-rotted manure or an equal mixture of bone, muriate of potash and guano, plowed in DEEPLY. I mark off rows four feet apart and plant fifteen inches apart in the rows. If it is desirable to keep off runners, a sharp 8-inch revolving coulter can be attached to the cultivator, thus saving much labor in cutting them. I am a strong advocate of clean culture and winter mulching. My experience last season was that berries thus treated were cleaner, and, blossoming later, escaped late frosts.

Deep cultivation near the plants in the fall and spring tends to shorten the crop, as many of the feeding roots are then destroyed. Old patches should be worked out as soon as the spring crop is taken off, and again in August.

Upon land that is naturally dry and porous, level cultivation should be followed; but if upon soil that is not well drained, they should be kept on a ridge, as standing water scalds them.

R. S. C.

Anne Arundel Co., Md., Nov 22, 1880.

Some of the Newer Grapes—No. 2.

The Cordifolia and Varieties.

Pearl.—(A Taylor seedling)—Bunch heavy, shouldered, compact; berry full medium, pale yellow, with a delicate bloom; skin thin and transparent; pulp soft and melting; sweet and high-flavored; vine very productive and hardy. A white grape of great promise, both for the table and for wine.

Amber.—(A Taylor seedling)—Bunch large, shouldered; berry medium, pale amber, sweet and juicy; fine flavor and thin skin; vine productive and healthy, of great promise both for the table and wine.

Transparent—(A Taylor seedling)—Bunch medium, compact; berry same size as Taylor; pale yellow and transparent; no pulp; skin thin; sweet and of fine flavor. Always sets its fruit well. A wine grape of high character. These were originated by Mr. J. Rommel, Morrison, Mo., and have been fruited for several years

Missouri Riessling.—Bunch medium, shouldered; berry medium, pale amber, very sweet and of fine flavor; pulp tender; vine healthy. A fine market or wine grape. Cross between Cordifolia and Lebruscea. Originated by Mr. Nicholas Greiner, Herman, Mo.

Noah.—Originated with Mr. Edward Wasseryecher, Nauvoo, Ill., from seed of Taylor. Bunch medium, compact, shouldered; berry medium, round, pale yellow, with white bloom, very sweet, good flavor, but rather hard pulp, and said to be very productive and hardy.

Uhland.—Grown by Mr. Weydemeyer, of Herman, Mo. Vine a strong grower, but with

a more delicate leaf than Elvira, and not as productive, though the grape contains more sugar and is of a higher flavor than it. Bunch medium, compact, shouldered; berry slightly oblong, greenish yellow in the shade, pale amber in the sun; skin thin, transparent, high-flavored and sweet.

Clinton seedlings of Mr. Rickett's:

Pizarro.—Seedling of Clinton, crossed w th foreign foliage resembling Clinton; productive; bunch long, rather loose; berry medium, oblong, black, very juicy and spicy; promising for wine, which is light red, with very fine aroma.

Bacchus.—Very healthy and enormously productive, as the original vine bore about 1,000 bunches this season, all perfect, and produced in 1877 nine gallons and a quart of juice. Resembles Clinton in leaf, bunch and berry, but much better in quality. Bunch medium, compact, shouldered; berry below medium, black, with blue bloom, juicy and sprightly. Must weigh from 95 to 110 ounces. Wine brownish red, sprightly, very heavy and of fine flavor.

Ariadne.—Clinton seedling, promising for wine, but so overloaded that it could hardly be called a fair test; compact bunch, resembling Clinton, but much better in quality; very juicy and sweet, juice dark; wine light red, very heavy, with fine flavor.

Naomi—Vine vigorous, very productive, hybrid of Clinton with Muscat; fruited ten years; leaves very large, coarsely serrated. Bunch very large, shouldered; berry medium, roundish oval, pale green, often with a tinge of red in the sun, covered with white bloom; flesh juicy, melting, sweet and sprightly. Ripens with Concord.

As I wish to make a complete list of new and desirable grapes, I again ask growers to send me descriptions of their best productions only,

G. F. NEEDHAM.

Washington, D. C.

Floriculture, &c.—December, 1880.

BY W. D. BRACKENRIDGE, Florist and Nurseryman, Govanstown, Baltimore Co., Md.

Lawn and Pleasure Grounds.

The cold wave that has passed over our country during the past two weeks, by which the ground became so frozen as to put a stop for a time to the planting of small trees and such other out-door improvements as necessitated the breaking up of the soil. But on the other hand, this state of things has proved favorable to the removing of large trees, where the frozen-ball system has been adopted; how to perform this kind of work, we have given in detail in a former number of *The American Farmer*. But in addition to what we have already written on the subject, many people place stones and rubbish from buildings in the bottoms of the holes, in order, as they say, to drain off any water that may accumulate therein. This practice may at first sight appear plausible, but its good effect depends altogether on the nature of the subsoil; should it be retentive, any such considered drainage will be of little or no avail, as water accumulating in the hole will rise to a height where the ground is porous, when a portion of it will pass off laterally, leaving a stagnant mass behind.

But there are remedies to prevent this lodging of water under newly-planted trees, and the first one of these we notice is to apply underdrainage by clay pipes or stone drains leading to some adjacent hollow. There is still another process to which resort is had, which we have seen practised in planting trees on a stiff clay soil underlaid by a strata of sand and gravel about six feet below the surface. In this case, so soon as the holes for the trees were dug, with a three-inch auger a hole was bored down to the sand strata; the hole being afterwards filled with pebble stones, and the tree planted over it; under this treatment the trees grew admirably.

Much of the stagnating influence of water lodging about the roots of trees planted in the fall can be obviated, by banking the earth higher around the tree, and wider than the hole was; this will shed the water off, and the ground can be leveled down in spring; after which, a mulching to the thickness of three inches of some porous vegetable matter ought to be applied.

In the endeavor to protect Evergreens that prove somewhat tender when young, the great majority of people cover them up too close, which causes snow and rain to lodge in the cover; so that when frosts set in, the whole becomes ceiled up in a mass of ice. Our practice is to shake some dry leaves among the branches of the bush first, then surround the whole with cedar or pine branches, which we tie together at the top, and finish by shaking some more leaves under this cover; the object being to afford shade from the rays of the sun and shelter from drying winds. Cold is not so much to be dreaded. Again, on beds of newly planted-out small Evergreens and herbaceous plants, we simply shake about two to three inches thick of leaves—those from the oak are the best; and in order to prevent them getting blown away, the use of a few light spreading branches of trees, or corn-stalks, will answer the purpose.

To protect beds of Hyacinths and Tulips, we prefer a layer of about two inches thick of light manure from the horse-stable. In conclusion on this head, we would remark that, if the various coverings noticed above have not already been attended to, the work should be gone about at once.

On all country places of any note, where trees, flowers and a fresh-looking lawn are desirable, apart from a large pile of manure is another one of composted vegetable matter and earth. Now is an auspicious season to set about collecting material for such a purpose; as leaves of any kind, cleanings of ditches, sods from the headlands of some field, muck deposits from creeks and lowlands, all which should be thrown together in a heap, and turned over twice or three times during the year. And in order to cause the decomposition of crude parts, as well as to kill any fungoid matter running through the mass, during the process of turning over a bushel of unslacked lime should be added to

about one wagon-load of the compost. Such an auxiliary as this pile will prove is not to be overlooked when planting-time arrives; in fact the food of almost all kinds of plants may be said to exist in it.

If straw mats or wooden shutters have not been prepared for covering the sashes of cold frames, it is certainly high time that this work was attended to, as winter in all its rigor is already upon us. Some people, to protect from lateral cold, bank their frames up all round with earth, while others place boards about one foot out from the frame; then fill up the space between with leaves; either plan will do, just so as to suit the convenience of material at hand suitable for the purpose.

The work of cutting down decayed, or rooting out of such trees as stand too thick, is work well adapted to the present season, as well as the pruning of such as may require it; but just let me here say, that this is a kind of work which very few people understand properly, judging from the hacking and mutilation we see practised on trees both in public and private places, which border on what we will here very leniently term tree-butchery.

Anyone about to prune a tree should first take a good survey of its head all round, and if that is well formed according to its kind, then we say let it alone; except the cleaning out of all dead wood and such branches as may cross each other too nearly. No farther pruning is necessary. Yet it may be that some of the lower branches obstruct the passage of a road or pathway; such, of course, will have to be taken off. And where large cuts are made, the scars should receive a coating of tar or gum shellac; the last is the best.

Greenhouse.

Demand for something new in the plant line, suitable for bedding-out purposes during the summer, is much sought after, and any effort in this direction is laudable. But it is no very strange thing in the floricultural world to find old things occasionally brought before the public as new, in order to meet this demand.

Over forty years ago, while gardening on the continent of Europe, we grew in a bed in the open air several varieties of the Hibiscus rosa sinensis, both single and double-flowered, with success, after having cut back a little the leading shoots on planting. And last season we had the satisfaction of seeing on a friend's lawn a group of the newer sorts of this gaudy plant bedded out, and confess it was a sight worth our visit. The varieties consisted of a kind very much resembling the old H. rosa sinensis, together with H. grandiflorus, with its single flowers of a brilliant scarlet color, the last named being the largest and to our taste the finest flower; and to the above two was added the H. fulgidus, whose flowers are also single and carmine-tinted with an undulated margin, each petal showing a deep crimson blotch at its base; this last has the finest foliage and largest foliage of any we have seen. All the kinds we know are free bloomers, and readily multiplied by cuttings of the young wood; for this reason, and owing to established plants being easily kept over winter in an ordinary greenhouse, we would recommend their more general planting. For our latitude and farther south they may be deemed far superior to Scarlet Geraniums for large groups on a lawn, or as single specimens planted out in a mixed bed or border. Some of our florists enumerate over 12 kinds in their catalogues, a few of which have double flowers, of a yellow or orange tint of color, but these are not usually so robust in growth as the single-flowered scarlet kinds. What would be richer in appearance than to have the centre of an oval or circular bed planted with the scarlet sorts, banded by a row of the double flowers?

But let us turn for a moment to the requirements of the greenhouse at this season. Do not let the temperature fall much below 45, or get higher than 65 degrees, giving air every mild day, observing to give water to the plants only when they want it, and then give enough to reach the bottom of the pot; hard-wooded plants dislike to be kept soaking wet as much as they dislike to be left to dry up; therefore let sound judgment be exercised in this routine business.

Keep everything neat and clean by subduing the insect tribes, and pick off all dead leaves from the plants, and such weeds as may have sprung up in the pots. It is also desirable, both for the health of the plants and the general good appearance of the house, that a fresh arrangement, and turning around of the plants to the light, should take place at least once every week; and this work will appear the more necessary when it is considered that many plants will be passing out of bloom, while those just coming into condition ought to take their place.

Don't let seedling plants remain too long in the seed-pan, but prick them off so soon as they are fit to handle; and we would refer our readers to last month's number, in regard to the disposition of cuttings of bedding-out plants

Hardy Bulbs.

Messrs. Editors American Farmer:

Has it ever occurred to the writers on floriculture what an easy and yet hard subject it is to write on? How easy if the writer gives only his own experience, according the subject no deeper thought than it *may* prove of some benefit to a few who read it, and how hard if he commences an article which he determines *must* prove of real merit to the majority of those who peruse it. I am assured *very few* other than the professional florist would be found proficient in the undertaking. My place is at the tail-end of the former class; and secure in my determination never to attempt, as yet, a seat in the latter school, there I remain.

To any lover of flowers, a judicious selection of those bulbs that are termed by florists "Dutch Flowering," will give more real satisfaction than any other class of flowers,—my especial favorites, the Annuals, excepted. It is of these that I propose writing in this article, with the modest hope that I may entertain if not instruct the reader.

With the exception of the two last spring months, the past season has been, in every respect, a model one for the pursuit of floricul-

ture for pleasure,—that is out-door floriculture, being such as would make any plant that could, (there *are* some that cannot, however,) give a good account of itself.

As has already been intimated, the months of April and May were not favorable to the successful growth of flowers; and as it is during the month of April that most of the bulbs denominated "Dutch Flowering" come into flower, all these were more or less, some seriously, injured by the protracted drought which we had then,—none more so than Hyacinths,—the bulbs suffering to an extent that was highly detrimental to their flowering qualities, losing their vitality; and instead of the handsome, robust spikes of flowers which they annually produce, weak, sickly ones, with scarcely a dozen bells, were all they could boast.

Tulips were not so susceptible to the failure of "Mother Earth" to supply the necessary moisture, and produced a tolerably fine display of flowers of reduced sizes, which, however, only lasted a few days. With the exception that the Lily blossoms, lacking vitality and substance, only lasted a few days I could not perceive that they suffered either in size or number of blossoms. All the spring flowering bulbs were, to a greater or less extent, sufferers by the drought.

And now a word or two, even if it is out of season, to such as contemplate purchasing a collection of hardy flowering bulbs. Nearly all lovers of flowers, no matter if it is their *first* purchase, have their favorite florist; and it not seldom happens when they look over the fall catalogue of their favorites, they are bewildered by the long lists of names which they see; they do not know, any more than some who write glowing articles on the merits or demerits of certain bulbs and plants, which is best, or that the same article appears often under several different names as so many distinct varieties; they are, therefore, at a loss which to choose, and fall often into the fault, *the first to be avoided* by all new-comers in the beauteous field of floriculture, *of wanting everything they see advertised* in the (in such instances) unlucky catalogue. To all such I would say, leave the selection to your florist; he is supposed to know more about them than anyone else; and I venture to assert you will never have cause for complaint. This is in reference to first-class florists, of course While it is a practice that should be more respected by correspondents on the subject than it is at present, of giving lists of flowers that the writer finds satisfactory, it is not to be supposed that one in five readers will agree with his views, as all persons have particular fancies of their own, which must be gratified. It is, therefore, with this understanding on my part, and the part of the reader I hope, that I give a list of my favorites in the bulbous class.

Of Hyacinths, I should have in a selection of six double and six single the following: Double "*Bouquet Tender*," dark red; "*Bouquet Royal*," pink; "*King of the Netherlands*," deep blue; "*Blocksburg*," light blue; "*Duchess de Bedford*," pure white; "*Louis d'Or*," dark yellow—single; "*Baron de Rothschild*," dark red; "*Temple of Apollo*," rose; "*Charles Dickens*," porcelain blue; "*Pronkjuiveel*," light blue; "*Voltaire*," bluish white; "*Golden Sceptre*," golden yellow. The above, in my way of thinking, is a splendid collection.

Of Tulips I would have no choice either in double or single, with a few exceptions in double ones as follows: "*Rex, or Imperator Rubrorum*," brilliant scarlet; and "*La Candeur*," pure white. With these two exceptions, I would leave all selections of Tulips to the florist. Of Crocus, Anemone, Iris, Narcissus, Pacony, and Rammcules, of which, however, the least a beginner has to do the better. I would have no choice; the selections should also be his.

Among Lilies I would name: Aratum, Lancefolium of three sorts, Candidum, Chalcidonicum, Longiflorum, and Tigrinum, single and double.

Of course it is understood that the above implies only where *named varieties* are wanted, which should always be, where possible, even if they should cost, sometimes, *twice* the amount of the unnamed or mixed sorts, as they will give far more than double the satisfaction. The reason of this is very obvious The *named* varieties are always chosen for their good flowering qualities, size and substance of flower predominating.

Of course where large beds are desired it is not practical, even necessary, to recommend buying named varieties. In such cases the mixed bulbs offered by a *first-class* florist will give abundance of satisfaction, and prove ample.

It will be seen that I have cautioned the reader twice to buy only of first-class florists, even if their prices do prove a trifle higher than those of some who advertise "first-class Holland bulbs" at surprisingly low figures. It must be understood that the bulb business is altogether a distinct branch from the seed. A man may be an excellent seedsman and yet know absolutely nothing about bulbs. Besides, there are large quantities of bulbs of a questionable character sent from Holland to the United States, and sold very cheap, apparently, to second-class dealers, who, in turn sell seemingly cheap to their patrons. All such bulbs are dear at any price, and it is against such that I caution my readers. Use, in planting bulbs, soil as rich as possible, of a fibrous nature, caused by well-rotted horse or cow manure. Avoid a stiff clayey soil, one liable to bake or retain an excess of moisture. Such soil is highly detrimental to all bulbs. Make the beds high, and in such positions where *no water* will stand for even a short time at the roots of the bulbs, or serious injury will surely follow. The depth, distance and time of planting the different classes is clearly given in all comprehensive catalogues and need no mention here.

W. G. Ivy.

Warwick Co., Va., Nov. 18th, 1880.

About Beans and Other Things.

Messrs. Editors American Farmer:

Mr. Watson, in your November number, gives his crop of Lima beans and asks for estimates from others. My crop of these beans occupied a plot twenty-seven yards square. From this plot we furnished up to October 1st seventy-five bushels of green beans in the pod, and now have

on hand over five bushels of dry hulled beans. This would make, as nearly as I can estimate, about 630 bushels of pods per acre, or about 150 bushels of dry beans.

The crop of Lima beans has been unusually good the past season throughout this neighborhood. I have saved seed of the large Lima and of a bean which came mixed with them and is similar to Drew's or to what twenty years ago we called potato Lima. These two kinds I shall plant in alternate rows, hoping thereby to improve the product of both. My experience of another season fully satisfies me that I can get more beans from poles not more than six feet high than I can from taller ones, and five feet each way between the hills is better than to crowd them in a closer space.

Winter-Flowering Plants.

But it is too cold now to talk about out-doors gardening. The forcing houses are gay with Bouvardias and all the gorgeous array that the demands of modern life require us to have ready at all times. And just here I am reminded that many old winter-flowering plants have of late been too much neglected in our anxiety to grow quantities of bloom suited for cutting. One of these neglected plants is the old Linum Trigynum. We have a plant of this which just now is worth going miles to see. It was planted out in the garden last summer and kept pinched and trained into good shape. It is now a compact bush three feet high and nearly as many in diameter, and is a perfect ball of gold, so completely is it covered with its large blooms of the richest yellow of any flower we know. No plant is better suited for winter-blooming in the sitting-room, as it is so easily grown into a handsome specimen. Another old winter-blooming plant, which I find does best with only a moderate supply of heat, is Gesnera Oblongata, a shrubby gesnereaceous plant, with rich velvety leaves and a profuse display of scarlet flowers. We formerly grew this plant in the hot-house, but never succeeded in making it look happy until I tried it in a greenhouse temperature of 45° to 50° at night.

Carnations are now in their prime. I am trying several new sorts this season, but have not yet found a Carnation of any color that equals in profuse bloom that superb seedling grown by Mr. August Hoen and called "Waverley." I have plants now full of bloom that were allowed to bloom all summer out of doors, and bid fair to keep it up all winter. I have frequently counted 15 buds and blooms on one shoot. The color is such a brilliant crimson-scarlet that it catches the eye of every one who sees it.

Another green-house plant which I find is greatly improved by planting out in summer is the Habrothamnus Elegans. My plants were all planted out last summer and kept pinched, and now the bloom is vastly greater than I ever had it on plants kept in pots. I find also that Eranthemum Pulchellum and Hebiclinum lanthinum are also vastly improved by the same treatment. In fact, I think almost every sort of winter-flowing plant would be greatly improved by this treatment. Of course I would not plant out Camellias and such hard-wood plants as make their growth and set their buds in early spring, but with this exception there are few plants we grow but will do better by being planted out and lifted then by being kept in pots.

Another plant of recent introduction I think will prove of value—this is Eupatorium Triste. The fault with flowers of this class has been that the Stevias bloom too soon for the holidays, and most of the Eupatoriums are too late. But here is a plant which will give us large trusses of feathery white flowers just at Christmas. A robust, free-growing plant, which, if planted out in summer and kept pinched hard, will make stout bushes that will be found very useful for cutting from.

Water-cress.

I have lately made a little experiment in growing Water-cress for winter use, and the result is that I find that a full supply of this piquant addition to the salad bowl can easily be had all winter. I have tried two methods of growing it, and both have been reasonably successful. In the first method I used an ordinary porous seed-pan which was filled with light, rich soil, and placed inside of another water-tight pan. Cuttings of cress were then dibbled in thickly and the outer pan kept half full of water and placed in a warm, half-shady place in the green-house. The growth has been very satisfactory, but I think would have been better in more sunlight. In the second method I used a shallow box, made by cutting off the bottom of a soap box, three inches deep. This was filled with sphagnum moss, in which the cuttings were inserted as before The box was then set afloat in an open rain-water cistern in a warm forcing-house, where it gets full sunlight in the morning. This also has done well, but as the box and moss gets soaked with water there seems to be a prospect of its sinking entirely. I intend to continue the experiment by suspending earthen seed-pans filled with soil and moss, so as to keep them just half immersed in the water of the cistern, and am confident that I can thus keep a full supply of Water-cress all winter.

In my article in your November number I notice several typographical errors. In speaking of winter "protection" you make me say "production." In another place I said the "*Teas* (meaning tea roses) would do well this way;" you make me say "*trees*." I trust my scrawl will be properly understood this time.

W. F. Massey.

Hampton Gardens, Md., Nov. 25, 1880.

Vegetable Garden—December.

Plowing part of the garden in lands 12 feet wide and 18 inches high along the centre of the ridge, as described in an article in your last number, would seem to be worthy of a trial by those who want an early garden; the figure in which it would leave the ground for succeeding crops alone causes me to hesitate. Most gardeners have a dislike to the dead furrow especially when using the marker, and the question is, shall we, for the advantage of one or two weeks in earliness, increase the number of such furrows four-fold? A gain of one week or even

less is all-important to the market gardener, and if the idea is practicable it will soon come into favor with him at least.

Out-door gardening is now over for a time, except that, weather permitting, plowing and draining may yet be done. Mr. Philbrick's article on draining is all right, except the recommendation to use the level in the bottom of the ditch to ensure a continuous fall. The level is a poor tool; use grading stakes, or T's as some call them, and save the trouble of consulting the instrument at every step.

Plants in frames must be well ventilated so as to keep them all the time hardy, which is a better way than keeping them tender for a time and finally "hardening them off."

Providing and caring for manure is always in order. Judging from club proceedings there is an astonishing diversity of views amongst farmers concerning the management of barn-yard manure. Amongst the better class of gardeners, so far as my observation goes, there is virtually but one way: get it as fine as possible by frequent turnings and plow or harrow it in. The difference in value between plowing in and harrowing in such manure, is, in my estimation, more imaginary than real,—seeing that, plow as we may, the manure is no more than a few inches below the surface. In the one case we may consider it as a sponge, retaining moisture long after the surface appears dry; in the other it is not so well covered, and acts more as a mulch, shading the ground and *thus* keeping it moist. Farmers and gardeners agree as to the advantage of using ground bones in preference to dotting the land over with either the whole or the broken article; when it comes to barn-yard manure there is no such agreement. Many farmers draw manure fresh from the stable and scatter it around as best they may. Gardeners, on the contrary, following the analogy of the ground bone, contrive to get the manure into such a state that one part of the heap shall be as good as any other, and also so well broken up that it can be evenly spread. True, this cannot be done without subjecting the heap to fermentation; but of what value is manure, as manure, until it ferments?

The recent rains have started celery into growth just as the growing season is nearly over. The bulk of my crop remains at this date (November 10th) untouched. I now propose to get it into shape by earthing up slightly, and after a week or two store it away on the surface of the ground: that is to say, leave a row here and there as it grew, and heel in several rows close alongside of them, banking up and protecting from frost. The thought occurs, why not *tie* up celery instead of having it earthed up? It could be done much more rapidly, and besides, by leaving the surface of the ground flat the whole season, the plants would get the full benefit of the rain, which they do not have after the earthing up process has been begun. The cost of tying material may be an obstacle, but at any rate I shall tie up a few hundred by way of experiment. Onions sown six weeks ago are only just peeping up; they will be too feeble to stand the winter I fear. There is but little to do in the garden, except to see that it is made tidy for the winter. JOHN WATSON.

The Asparagus Beetle.

This pest, which causes so great loss to market gardeners, was the subject of a paper read before the Maryland Academy of Sciences at its November meeting, by Mr. Otto Luggar. He said:

The asparagus crop, which, in Europe, had long suffered severely from the attacks of several insect pests, enjoyed on this side of the Atlantic perfect immunity, until, in 1859, its worst enemy, the asparagus beetle (*Orioceris asparagi*) was accidentally introduced in the vicinity of New York city. It almost immediately spread from there into the famed asparagus beds of Long Island, where it increased to such an extent that it occasioned, in 1862, the loss of over one-third of the crop. Since its introduction it has spread slowly eastward on Long Island, northward in Connecticut and New York, and westward and southward into New Jersey and Eastern Pennsylvania. Last summer, in the early part of August, it was first discovered in small numbers in Maryland, near the mouth of Curtis' Creek, where it fed upon the asparagus that abounds in a wild state all along the estuaries of the Chesapeake bay. So, asparagus growers must be on the lookout for it. The beetle is a small one of about a quarter of an inch in length. It is a very showy insect, having a black head, black feelers and legs tinged with metallic green. Its throat is reddish brown, with two black marks in the centre. Its wing-covers are light lemon-yellow, with a black crop and four black spots. The beetle, as well as its larva, feeds only upon the asparagus, eating holes through the outer bark, and showing enough sense to prefer the tender parts. There are at least two broods annually, and, as many eggs are laid, the insect increases rapidly under favorable circumstances. Although a very noxious insect, it possesses one redeeming character, at least for those very much interested in music. It can produce, when excited or in love, a very audible musical tone, made by rubbing its last segment against the tips of the wing covers. The following preventives are suggested: If the asparagus is cultivated on a small scale, hand-picking will keep the enemy in check. Turning poultry into the beds proves also effectual. Solutions of potash, salt, lime, etc., are of value, but the best thing is the use of lime, which is not only very cheap and readily obtainable, but will add also at the same time to the fertility of the soil. It has to be applied in the morning, while the dew is on.

Remedy for Cabbage-worms.

Of all the many topical remedies that have been tried for the imported cabbage-worm since it first began to spread over the country and to play havoc with our cabbage fields, few, if any, have given entire satisfaction. It is safe to say that the most satisfactory remedy so far discovered is in the use of Pyrethrum. We were the first to apply this in 1879, but did not care to recommend it until further experiments had been made. These we have made the present

year, and caused to be made by a number of our agents and correspondents. The general experience is most favorable, and we unhesitatingly recommend it for all the different worms affecting the leaves of our cabbage plant.—*American Entomologist.*

The Grange.

The National Grange

Held its annual session in Washington from Nov. 17 to 27, the attendance of delegates being larger than usual, nearly all of the States being represented by the masters of their respective granges, accompanied in most cases by their wives. On assembling, an address of welcome was delivered by Wm. Saunders, of the Department of Agriculture, the first master of the National Grange; and, during the session, Commissioner LeDuc also made a speech.

A great deal of time was consumed in the presentation of routine mattters, and as we go to press it is difficult to state what are the definite results of the session. No very connected report of the proceedings seems to have been given to the local press; and the sessions which we were enabled to attend were devoted to the discussion of committee reports, upon which final action was delayed until a later day of the meeting.

The new master of the grange, J. J. Woodman, presided ably during its deliberations, proving him full of vigor, tact and courtesy. His annual address was a bold and clear presentation of the objects and aims of the organization. He said that the grand objects of the organization were the general improvement of husbandry and the increase of the general happiness, wealth and prosperity of the country. The obstacles it had to contend with at the first were recited by him, one of the chief being the attempt of ambitious men to get control of the Order for political purposes. It was to oppose the combinations of dealers, shippers and transportation companies, who sought to control prices and increase profits without regard to the ruin they were bringing on others, that this Order was established. Also to secure intimate social relations among agriculturists, for the advancement and elevation of their pursuits, with an appreciation and protection of their true interests.

The rapid growth of the Order made a reaction inevitable. A great brotherhood, organized for the education and elevation of a class, could not live and accomplish its mission without system, discipline, and united action. The Order must pass through an ordeal, in reorganizing and consolidating granges, enforcing discipline, and systematizing its work, that would reveal its weakness and inefficiency or demonstrate the correctness of its principles, and establish its strength and perpetuity. Through that crisis we have passed. Though somewhat depleted in numbers, yet better organized, better disciplined, and better prepared to make the principles of our Order understood and appreciated. There can be no better evidence of the vitality of our organization and the value of its principles than are to be found in the fact that under such circumstances so many granges have lived and prospered, and that so many intelligent, high-minded men and women all over our land are still laboring in its ranks, and advocating its principles.

He advocated the encouragement and strengthening of the subordinate granges; as upon their prosperity depends the very existence of our Order, and the principal hope for an independent and untrammeled agriculture in this country. Every available means for disseminating information among the members should be employed. The press is the cheapest and most effective educator of the masses. In his judgment it is not asking too much to request the new administration to make the Commissioner of Agriculture a member of the President's cabinet, where he can have a voice and exert an influence direct with the government.

The W. M. said the farmers of our country are often put to great inconvenience, expense and exasperation in being blackmailed and robbed, under threats of prosecution in the United States Courts, by unscrupulous patent-right claimants, or their agents, for using, or having some time used, an article or implement claimed to be an infringement upon some patent, although the article or implement may have been purchased of the manufacturer or vendor in good faith, with no notice or knowledge of its being an infringement, and no means of obtaining that knowledge.

A memorial was sent to Congress by the last National Grange, calling attention to this subject, and thousands of our citizens petitioned for such amendments to the patent laws as would give protection to innocent purchasers of patented articles from such cruel and unjust extortions. But the influence of a few men who fatten and grow rich by such ill-gotten gain had more influence with a majority of the people's representatives than the prayers of their victimized constituents.

Intimately connected with the interests of agriculture, said Mr. Woodman, is the question of transportation, and in our declaration of purposes we say, "that transportation companies of every kind are necessary to our success, that their interests are intimately connected with our interests, and harmonious action is mutually advantageous." "We shall therefore advocate for every State the increase in every practicable way of all facilities for transporting cheaply to the seaboard, or between home producers and consumers, all the productions of our country." "We are not enemies to railroads, or of any corporation that will advance our industrial interests." * * * "We are not enemies to capital, but we oppose the tyranny of monopolies, and such spirit and management of any corporation or enterprise as tends to oppress the people, and rob them of their just profits."

This is the most important question of public policy that now agitates the minds of the people.

The address concluded as follows:

The relation of National, State, Pomona, and Subordinate Granges should be of the most intimate and fraternal character, and all legislation so directed as to produce united action upon all questions affecting our common cause. Practical business co-operation should be encouraged among our members, and all doubtful enterprises involving the common funds of the Order or liability of granges should be avoided. Business should be conducted upon business principles. Business operations which cannot be made self-sustaining will result in ultimate loss, and the experiment of salaried agents by State or Subordinate Granges should not be repeated. Where associations have been formed upon the co-operative plan, and wisely managed, they have generally proved successful—in some instances surpassing the most sanguine expectations of Patrons. But nothing can do more to popularize our Order with the farmers and bring it into general favor than an active, bold, and determined policy to amelioriate the condition of agriculture and protection from the grasping avariciousness of combined and incorporated power.

Our organization is an experiment, and its power to remove the great obstacles in the way of a prosperous agriculture in this country has never yet been fully tested; but the efforts which have been made, and the steps taken to bring about these results, have been crowned with sufficient success to establish its ability, if properly directed, to accomplish that object, and the time has come when the test must be made. The conflict is upon us, and every member is expected to do his whole duty. It remains to be seen whether this country is to be controlled by the rapacious railroad transportation companies managed by a few men "*who recognize no responsibility except to their stockholders, and no principle of action but personal and corporate aggrandizement*," or by the sovereign people.

It is encouraging to know that we are receiving influential allies from the commercial and manufacturing interests of the country, and if we stand firm and bring the whole strength of our Order into action the contest cannot be a protracted one or the results doubtful. Then let every Patron do his duty. Do not enter the field half-hearted; damp zeal is like damp powder, it will not burn and has neither fire nor force in it; but work in earnest and make your work practical. It does not require the gift of eloquence to convince fair-minded men of the benefits of the grange, and the practical advantages of membership. There are no faults in our organization to apologize for, and but little prejudice to overcome. Every principle of the Order is founded upon equal and exact justice. There is no law or rule that gives one member greater rights or privileges than another. There are no favored few, no privileged class,—all stand alike upon the same platform governed by the laws, and protected by the same power. Our declaration of purposes challenges the admiration of all classes and professions of men, and no one has been found to criticise them. This movement is one of the most important known to history, and the first attempt of the agricultural class of a nation to maintain their social, intellectual and political equality. As the means of social advancement, enlightenment, and liberalism, our Order possesses a power hitherto unknown; and guided by the light of its principles, it must overcome every obstacle and hold its way steadily onward, "bringing all within its influence nearer to the good, the beautiful and the true."

Let every member, then, be inspired with faith, hope and zeal, in building up the Order and extending its sphere of usefulness, until in these quiet grange halls all over our land shall exist a power, and go out an influence which shall carry hope and good cheer, not only to the husbandman but to the toiling millions of the world, and make our country, in truth, not only

"The land of the free and the home of the brave,"
but
"The land of the good, and the home of the blest."

At the several meetings of the grange resolutions, among others asking Congress to pass a bill making the Commissioner of Agriculture a cabinet officer, were adopted; recommending Congress to pass what is known as the Regan bill, regulating transportation charges, and prohibiting discriminating and exorbitant rates; favoring a graduated income tax. One favoring a revision of the patent laws was passed. This last was to the effect that farmers who bought machines should not be liable to the patentee for penalties as is now the law, but that the liabilities should rest on the persons from whom such machines were purchased. The committee on transportation reported a series of resolutions arraigning the corporations of the country as inimical to the farming interests, which were adopted.

Other resolutions were adopted favoring the introduction into the common schools of textbooks on Elementary Agriculture, and memorializing Congress to take steps to eradicate the pleuro-pneumonia among cattle. The proceedings will be earlier printed this year, and be ready for distribution to the State granges, which hold their sessions this month.

Evenings at the Grange.

Gardening for Tight Times.

When the next meeting of our grange came 'round, brother Carson 'rose and said, after a little make-believe shyness in the way of hem-ings and haw-ings, that he had no speech to make. Indeed, the fact was, that he could not deliver himself of a speech to save his life; that he had no doubt he had the sense in his head or his stomach—or wherever his sense lay!—to make up a speech; he was sure he had, and a good fitting speech it should be, if he made any! But to get it out straight and right, and well delivered, this was what he "choked on." At this point our speaker swallowed very hard, as if to give an illustration, and recovered a better volume of voice.

"Yes, my ideas are all right." Here he began to grow decidedly bolder. "I am sure of that! and sure, too, that I have as many ideas as most men; but now, when I consider that I am expected to stand up here before such a speaker as 'Ceres' (to say nothing of the rest of this

clever assembly of brothers and sisters) and deliver myself of a regular *speech*—a big regular, beginning with a big S, and done up in capitals! —I must say my heart fails me; my mercury's way down in my boots. The words stick in my throat, and (he added this with a merry twinkle) I assure you 'tis a *bona fide* stick, too, decidedly worse than a chicken-bone, and for the simple reason that its effects are worse: it makes me *chicken-hearted*.

"However, since I am up, and find (this with another twinkle) that I *have* got some feet to stand on, don't feel quite as knocked-kneed as I did, I will venture on a *small say* of my own for fear of disappointing my audience —— *beyond recovery!*"

When the laugh that went round at this had subsided, brother Carson went back on himself to another ahem—a—haw! and then proceeded with renewed courage. "No, I have to be honest enough to confess that even the *small say* I am going to say is not quite my own. I got it from my wife." Here a good ringing laugh went the rounds. "I mean she suggested the subject to me incidentally." Then, waving head and hand with a graceful and gallant sweep, added:

"I accept the hat, good grangers! I hope it fits me. There is no more becoming head-piece to a man, in my opinion! I confess frankly to my wife's *subjects* whenever and wherever I find them. And I am glad and proud to acknowledge myself as the most loyal and most devoted one that her majesty *owns!*" (Great applause.) "Yes, and without taking off my becoming 'cap,' allow me to say if we all asked our wife's opinion on things oftener, and then followed her advice closer, we would all find us better and wiser men for it."

Amid the merry laughter and clapping of hands with which this sentiment was received, somebody cried out: "Why, Carson, you'll make a splendid speaker after a while."

"*Capital!*" returned Carson waggishly,—"that is if they don't spell speech with too big an S." We were getting hilarious. The speaker thanked us for giving him time to collect his wits and to measure his ground. Then he resumed with dignity:

"Yes, I remember now. It was really and literally *garden ground* I was going to take my stand on, and what I had to say in a few plain words was suggested to me this morning as we sat at breakfast. Wife observed: 'This is our last dish of tomatoes, and I hardly know what to have in the place of them. Dear me, we ought to make it a special point every year to *garden for tight times.*' 'And what do you call 'tight times,' love?' I asked in a very careless tone. 'I didn't know women owned up to having *tight* times."

"She saw no fun in this, and continued very earnestly: 'Well, my dear, if you had to keep house in stingy November and hungry April, you'd know what I mean by 'tight times.'— You remember, George, I begged you to plant some corn about harvest for late roasting ears, and you told me you were too *busy*. Then I begged you to plant a bushel or so of potatoes for the winter crop, and you thought potatoes were so cheap they were not worth the trouble of a second planting. Then this fall, love, you know it was the same thing over again. I implored you to put out a lettuce-bed, or sow some spinach, or kale, or something for the spring, but you thought it not worth while. Of course, dear, it grieves me very much to find fault.

'But, really, when the summer vegetables are gone and the winter ones not yet come on, and in the spring, when the winter vegetables are gone and the summer ones not yet sown, it's positive'y dreadful on housekeepers! Then, Georgy, you remember also you wouldn't take time to sow a turnip-bed, even although I begged so hard!'"

"Plenty of pumpkins and Kershaws!" I interrupted in a stout way for one who did know exactly. "Those are the very fellows that generally have the stout way!" laughed a *sotto voce* near by. Carson did not hear it, and continued:

"Only about a dozen pumpkins, George, and not a Kershaw. You remember the hogs rooted up the vines! No squashes neither; and we'll have to buy potatoes instead of having some to sell."

Here many tried to choke a small sigh. I knew there was "something in the wind," for my wife is a woman that never complains of things.

My next remark was: Well, we've got plenty of cabbages, and parsnips, and salsify; we won't starve anyhow.

'Two rows of parsnips, George, and two rows of salsify—that's all I know of! And those will be left in the ground, as you remember, love, all winter long, making them of very little use; for when it's freezing weather you can't get them, and when it's mild weather you don't care for them. Indeed, dear, I am really afraid that we will get heartily sick of dry provender this winter. Rice and macaroni will make our standby so far as I can see.'

Here Mary rested her chin in her hand, *in this way*, (imitating her.) and looked dreadfully depressed. I knew something was ajar, so I put *my* chin in *my* hand and waited. Presently she said demurely: 'I had a note from Mrs. English this morning.'

"Aye!" I responded, pricking up my ears.

'Yes; and she says: If we come over there to-day she'll give us the best sugar corn she ever saw, and the biggest sweet potatoes, and the finest Hubbard squash; and she adds, (here Mary took the note from her pocket and read:) "And all because Mr. English took my advice. Mary made a special point of gardening for those two "*tight times*" that you and I have such a holy horror of and discussed and *cussed* (don't let George see this horrid word) so freely last spring. Come by all means. Tell George I have some pears here for him, and he shan't have one if he don't come. Fondly,

M. T. ENGLISH.'

All the answer I made to this note was: "Mrs. English's name is Martha, isn't it?"

'Yes.'

Aye,—and you Marthas and Marys *do know so much!* Her sweet, good-humored answer was: 'Yes—and if you darling old Georges

would only mind what your Marys and Marthas say to you, indeed you'd do better.'

"Now, I give you all this *verbatim et literatim*," continued Mr. Carson, for several reasons. "My first is: because my wife talks better than I do." (Applause.) My second is: because I want you to see what a fine granger and gardener I am! (Then somebody in the hall cried out: "Well, Carson, you're an honest man anyhow, and that's better than both.")

"Maybe I'm making capital of my honesty," Carson retorted with another quizzical wink. "You know I must find some filling for my *capital speech*, and honesty's as cheap as the next thing."

After the merry clatter incident to question and answers as to "what's the next thing," had died *away*, Carson resumed soberly. "And my third and real practical reason is: Because I *did* go to Mrs. English's dinner, and I did become a thorough convert to the Martha and Mary doctrine of gardening for *tight times*. The road to many a man's judgment is, as we all know, brothers, *through his stomach*, (merry laughter,) and I must confess to having been entirely convinced and converted by Mrs. English's fine dinner. The corn was as sweet and tender as if the day had been fourth of July. The sweet potatoes were as large as an ordinary baby's head; only required a little top-dressing of sugar to make them as sweet as the sweetest. And the squashes so splendid, that we all preferred them to the potatoes. And the pears, that put in an appearance after dinner, were superb; could hold their own against any of your 'Duchess d'Angoulemes' or 'Flemish Beauties' I have ever seen. The truth was, I became so completely enamored of the deliciousness of Mrs. English's dinner, that I spent the whole evening in investigating matters and in comparing accounts.

Now, the corn, and indeed all English's fall products, not only stood on their quality, but their quantity was something satisfactory in the highest degree.

After dinner he took me the rounds to see for myself; and he told me the two acres of ground he had in fine full-eared corn had just been resowed from his corn-field for late planting; and the whole thing had not cost him actually a full day's work. The plowing had been done when the field was plowed, and the hands dropped the corn in an hour or so one morning when they were getting ready for harvest. As to the after plowing, he hardly knew when that was done—just at odd times when a couple of hours could be spared.

The sweet potatoes, he told me, cost little or no trouble. Years back he had had a few cartloads of sand mixed with the soil, which was rather too clayey for sweet potatoes; and now, all he did was to put out sproutings or plants along his ridges in the late spring. The chief care was to prevent the vines taking root too freely.

And as to the squash, the seeds had been dropt in the corn-hills and cultivated along with the corn. 'No difficulty. Only put out a plenty, and have your corn-plowing done before the vines begin to run.' Then I took a survey of the other winter vegetables that were not yet put away. A large square in the garden, measuring about one-fourth of an acre, was given to salsify, parsnips, carrots and onions. For these he told me he had trenches dug. And after the things were turned out of the ground by a careful plow, and allowed to dry off, they were laid away in the trench, covered with straw and earth, and ready for use all winter. 'And what we can't eat the cows can,' he added with a laugh.

I thought of my two rows of salsify! and two rows of parsnips! and I confess to you all candidly I never felt so mean, and so much like a regular *no-account-man* in my life! And now, come what will, I am determined hereafter to garden for the *tight times*—for the stingy Novembers and the hungry Aprils. I've just set my mind on it, and I mean to do it. But what I particularly wanted to say this evening was, that there are still a great many points on which I am still in need of instruction, and on which I want some more successful brother to give me practical and positive information: as, for instance, the best time and the best mode of putting in the second crop of potatoes. I am not at all successful in raising Irish potatoes, and any information—

Here a voice in the hall cried out: "Why, Carson, speakers always come along to give us information, not to take information from us,—they tell us what they can do."

"I think they had better tell us what they can't do!" retorted Carson. "A good many of them are philosophers of the *Kant* school. I confess I am one, honestly and truly. I never did know how little I knew about gardening till I went to English's to-day."

"Bravo, Carson! You're the bravest man in this crowd, if you ain't the best gardener.—Be hanged if you don't mean to become Frederick the Great over us, man!"

"Yes, and I don't want to starve my courage on dry victuals this winter," laughed Carson.

"Sister English's pears eat better than rice and macaroni—eh, old fellow?"

Amid a general shout and hand-clapping, our orator made his bow, assuring the brothers and sisters that he had come expressly to show them "how to make a speech out of nothing," and nobody could deny that he had been *more than successful!*

Our singing and other matters went through like an electric flash, and the meeting broke up in a perfect jubilee.

As Ceres passed out of the hall she whispered to Carson:

"See how easy a thing it is to keep a grange meeting from being 'stiff, stupid and stolid!'"

VIRGINIA CLARKE.

THE MARYLAND STATE GRANGE will meet in annual session on Tuesday, December 14th, at 2.30 P. M., at Raine's Hall, Baltimore.

BALTIMORE CO. GRANGE, No. 13, will hold its regular quarterly meeting in Temperance Temple, Baltimore, Thursday, Dec. 9, at 10.30 A. M.

MANTUA GRANGE, No. 169, Baltimore Co., Md., will hold a public meeting on December 29th, in its hall at Mantua Mills.

Home Department.

Two Pictures.

An old farm-house with meadows wide,
And sweet with clover on each side;
A bright-eyed boy who looks from out
The door, with woodbine wreathed about,
And wishes this one thought all day:
"Oh, if I could but fly away
From this dull spot the world to see,
How happy, happy, happy,
How happy I would be!"

Amid the city's constant din,
A man who 'round the world has been
Is thinking, thinking all day long:
"Oh, if I could but trace once more
The field-path to the farm-house door;
The old green meadows could I see,
How happy, happy, happy,
How happy I would be!"

Our Boys.

It too often seems as if they were a species of the human family not properly provided for, and that they must needs jostle their way through the world as best they can, from the time they are promoted to pockets and pants until they assert their manhood. If we are ever disposed to dispute a somewhat premature assumption—the man—it might be well for us to bear in mind that herein lies his only mode of escape from some serious ills to which his boyhood subjects him, especially if there are also girls in the family. I speak of the average run of boys. There are of course exceptions, where the boys have the best of it, and by coddling and petting become either "Miss Nancys" or "bears." The boys entitled to our kindly consideration are those of the households where they are made a common convenience of, and there assigned in matters of pleasure and comfort to a secondary place, having upon all occasions to yield precedence to the female portion of the family. Nothing so clearly indicates the innate gentleman as this ready yielding of the first and best to womankind on the part of boys or men; but what I resent in their behalf is that it is so universally assumed as a right by our sex that this supremacy shall be accorded to us. Not so much in public, however, as within the limits of the home government is this spirit manifested. What good taste forbids in society is allowed too generally at home in this respect. Does the boy usually have that care for his home pleasures and comforts bestowed upon him that is given to his sisters? Is his room as cheery and pleasant as theirs, or as well cared for? Is there a piano provided for his amusement, and would he be allowed to spend the hours in practicing that the girls have provided for them at any sacrifice? If the family means are limited, whose wardrobe is provided for first, sometimes leaving the other without what he considers as essential to respectable appearance as do his sisters? And if the family is becoming too large for the home tree to shelter all, who is first expected to go outside to provide for themselves? Why, of course, the brothers.

Much of this is doubtless proper; but it might be made more pleasant for him in the way of its accomplishment. For instance, considering that the girls are likely to occupy their rooms much more than the boys will theirs, it is very right that they should have the pleasanter ones; but his sisters ought in return to exert themselves to equalize matters by care and taste in the arrangement of the boys' room. It is a great mistake to suppose that they do not appreciate the difference. However much they may be disposed to throw their things about, or handle delicate things roughly, there is a something within that responds to beauty and an appearance of comfort in a way that will help to modify roughness and carelessness, and, what is better, the sense of being kindly cared for increases his self-respect; and as he goes out into the world he will be more likely to make himself respected there. This way of thinking anything will do for boys is demoralizing to them, and sisters have no right to complain that their brothers are more ready to attend upon other boys' sisters than their own as long as they are so much more lavish with their own smiles and attentions to those other boys.

The mother's sympathy is strong for the boys, but she is not always wise in her way of showing it; and the ill-disposed wit who made a terror of her "apron-string" has thrown one of the greatest obstacles in the way of keeping the boys under her influence. It requires a vast amount of moral courage for a boy with this "apron-string" in mind to go with a heart full of his grievances and pour them out with his head on his mother's lap, and her hands smoothing his ruffled head; but he will never in all the years before him find any safer place to go, nor gain a more tender hearing.

Yet with all the tenderness of her nature the mother is not always wise, and too often fails to see just what is wanting to keep the boy and his interests at home. He should have a share in every pleasure that finds its way to the home circle; should feel as free in every corner of the house as the girls do, even though his boots may carry a little more dust to be cleared away, or bear a little roughly on the carpets and furniture. It is far easier to clean after him than to hunt for him when he has sought his pleasures elsewhere.

The most unpromising boy will often glide easily into the choicest social circle through the care and tact of his mother or sisters, and in time maintain a creditable footing there for himself; while other boys, much more interesting, drift about until habits and tastes averse to the claims of the circle entitled to their presence are formed just for the want of this same tact on the part of the females of the family. For every attention girls will give their brothers in their teens they are likely to receive compound interest in their maturity. There are other interests of the boys of perhaps more vital importance to him, which I had in view when I wrote "our boys" at the head of this article, and for which we parents are more directly responsible. They are the developing and shaping of a true manly character in him. Self-reliance is one of them; and it is remarkable how early this principle will take root if there is some little pains taken to plant it there. First to be clearly taught the difference between right and wrong, and then to be made to feel that they are trusted to do the

right, that he is confidently expected to do right, will in most cases insure the boys so doing. He needs always a confidence in his own powers to resist evil, which the confidence of those he loves and respects alone can give him. It seems also the destiny of man to make money. In some way and by some means the average man must make his own living or do without it; therefore he cannot be too early taught its true value, so that he may neither underrate it nor overrate it; and he should likewise be taught the principles on which he may justly expect to accomplish this all-important object of making money. There are many ways by which boys can "turn an honest penny," and they should be encouraged to do so with some worthy object in view. A widowed friend related a circumstance to me recently which illustrates this so well that I venture to give it here. It was told in the presence of all that were left of her numerous family of boys, and they were sons to whom the mother could refer with pride and pleasure. She said, her home being in a little country town, of course she had not much space to devote to her purpose; but she allowed her boys to cultivate her garden and fruits and paid them for what she used, and what there was more than that they were permitted to sell to other parties; but their money was to be used to defray the necessary expenses of clothing and schooling. In the course of conversation, one warm sunny spot, that had for many successive years provided early cabbage plants for the whole neighborhood, was proudly alluded to by these mature business men, one of them remarking that from the proceeds of it he bought his *first pair of pants*. "You mean your first store pants," remarked the mother, which revealed the ludicrousness of the first statement. How many boys would be elated to be thus allowed to provide for some at least of their own wants, or to follow out some generous impulse in other directions. Perhaps the immediate results of such efforts are trifling, but the effect upon the boy is incalculable. I have little doubt but that the great tendency of boys to leave their homes on the farms, to go to the cities, is because they *see* no money in their perpetual round of duties, the aggregate results being beyond their calculations; whereas by a little care the parents might gladden their lives and make them proud successors in their own line of business. So many of the homes of our childhood would not be left desolate, or to pass into the hands of strangers, if the boys were held by the cords of love and justice. This leads me to touch lightly and with the utmost care upon the *seeming* absence of sympathy between the father and the boy who is verging unto manhood. What is it that makes the father seem to resent this advance in his son? Is it jealousy that another *man* should share his special prerogatives, or is it rather disappointment that this immature specimen of his own production is not up to the full measure of his expectation, forgetting in his impatience that the very best of the boy may be still undeveloped and needs his kindly encouragement to bring it out. Oh, fathers! beware how you throw your boys back upon themselves, or, worse yet, out upon the world for sympathy and help at this critical time. It is easy to plead other cares as preventing your attention to his case, but you had better let business go to the dogs than that your own flesh and blood should be left to their tender mercies.

Don't think anything too much trouble that can win or keep your boys within the bounds of your own influence, and then let that influence be toward developing manhood,—not toward repressing it. When once this stumbling period is passed there is nothing more worthy of our admiration than a man's just pride in his sons and theirs in their father. CERES.

Transparency.

The pretty transparency represented by the engraving is made by arranging pressed ferns, grasses and autumn leaves on a pane of window glass, which should be obscured, laying another transparent pane over it and binding the edges with ribbon, leaving the group imprisoned within. Use gum tragacanth in putting on the binding. It is well to secure a narrow strip of paper under the ribbon. The binding should be gummed all round the edge of the first pane and dried before the leaves, ferns, &c., are arranged; then the binding can be neatly folded over the second pane without difficulty.

To form the loop for hanging the transparency, paste a binding of galloon along the upper edge, leaving a two-inch loop free in the centre, afterwards to be pulled through a little slit in the final binding.

These transparencies may either be hung before a window, or, if preferred, secured against a pane in the sash. In country halls, a beautiful effect is produced by placing them against the side lights of the hall door. Leaves so arranged will preserve their beautiful appearance throughout the entire winter.

Jottings of Travel.

After some time delightfully spent in the Catskills we reached New York, in which the last few years have wrought great improvement. The view of country-seats and homes on the banks of the Hudson was exceedingly beautiful, many of them standing on knolls and rocky eminences commanding charming pictures of the river, the Palisades, and the Highlands. The strangeness of the contrast from the profound silence of the mountains, through the deep gorges of which we had been riding for days, a stillness broken only by the rushing of waterfalls and swollen mountain streams, to the roar and tumult of the piers along busy West street and Broadway, strikes one forcibly.

After visiting the great cities of the old world, one is better fitted to judge of New York in comparison. One of the curious sights is the landing of emigrants at Castle Garden on the Battery. Three hundred thousand have come to our shores in the past year. Many affecting scenes may be witnessed among the groups that surround Castle Garden; but most of the men had a dissipated look and the fumes of liquor told their own story.

In Union Square we visited the studio of Rogers, the sculptor. About fifty of his household groups or statuettes are tastefully arranged in a large studio; the work room of the artist being beyond. One of the most striking and popular pieces of statuary is the latest, of four figures: Antonio, Bassanio, Portia and Shylock represented in the trial scene in the "Merchant of Venice." The stairs are supposed to lead to the seat of the duke who presides over the court, but is not represented in the group. Portia disguised as a lawyer towers above the other figures. She has the bond in her hand which Antonio has given, and has just declared that, according to law, the penalty is due. Antonio, who stands on the extreme left, is therefore dropping off his cloak and opening his dress, as the flesh is to be cut from "nearest his heart." Bassanio, his friend, the cause of his peril, stands by his side holding the bag of gold with which he has offered to pay the bond; but Shylock has refused it. Bassanio and Antonio are characteristic faces. Antonio, the elder, has nobility and generosity on every feature. Bassanio is younger, more thoughtless, gayer in life and address; just the one, through unthinking lavish expenditure, to bring calamity on those who are his friends. Portia, who, under all, has not so deeply distressed a countenance as might be supposed, did we not know that triumph is in her hands and near, is urging Shylock to have a surgeon by to check the blood; and the miser, with a countenance contracted and shriveled by thirst for gain, exclaims: "Is it so nominated in the bond?"

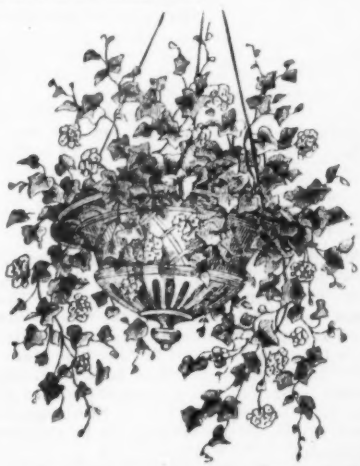
New York is now thickly intersected with elevated railways, roaring along far above, on a line with the windows of upper stories, darkening blocks and stores below on many thoroughfares, and giving commanding views of avenues and cross streets. Many electric lights across main thoroughfares, a single one illuminating one or two blocks, have a weird effect. Central Park, though only twenty years old, is one of the finest in the world,—having seats for more than ten thousand persons, of which six hundred are in vine-covered arbors. Five hundred thousand trees and shrubs have been planted. From some of the walks on the mall thirty feet of rock have been removed. In a single year sixty millions of people crossed the East river ferries. The new bridge is a conspicuous object; its length will be six thousand feet; its width eighty-five feet. The caissons on which the towers rest are sunk ninety-two and eighty feet below the surface of the water. Its cost will be over fifteen millions of dollars.

MRS. J. B. MOORE BRISTOR.

USES OF A SAND BAG.—One of the most convenient articles to be used in a sick-room is a sand bag. Get some clean, fine sand, dry it thoroughly in a kettle on the stove, make a bag about eight inches square of flannel, fill it with the dry sand, sew the opening carefully together, and cover the bag with cotton or linen cloth. This will prevent the sand from sifting out, and will also enable you to heat the bag quickly by placing it in the oven, or even on the top of the stove. After once using this you will never again attempt to warm the feet or hands of a sick person with a bottle of hot water or a brick. The sand holds the heat a long time, and the bag can be tucked up to the back without hurting the invalid. It is a good plan to make two or three of the bags and keep them ready for use.—*N. Y. Post.*

A Beautiful Basket Plant.

The richness and elegance of the foliage of the Ivy-leaved Geranium makes it, according to Vick, eminently serviceable for baskets when only a single plant is used. Where only one plant is used, however, it takes more than one year to show it in its best condition. The plant is easily kept through the winter; and the second season, by a liberal use of manure-water, the growth will be exuberant.



Amongst the many varieties, there is great room for taste in selection: There are bronze,

golden yellow-leaved, green, with white margin, and one, L'Elegante, has its green leaves margined with white, that is streaked and tinged with pink. The flowers, too, are varied in color; some single; others double.

One of the best sorts for a hanging basket is Kœnig Albert, with mauve or purplish lilac flowers, which are double, and last much longer than the single ones. For large baskets, where the best effect is desired in a short time, several plants of different kinds can be used for the margin, with other plants in the centre.

Rustic Frames.

The reign for domestic ornamentation still holds sway; and people in the country have every advantage for such ornamentation, at a very trifling expense beyond the exercise of a little feminine ingenuity and taste. The twigs of various kinds of trees may be manufactured into a variety of pretty and useful things. For instance: A picture frame, an easel for a mantel, on which to exhibit an unframed picture, a bracket, match or card-receivers.

The twigs are selected with a view to uniformity, and with the bud end for the outer edge. They can be sewed together or fastened with brads or pins, and then varnished.

Domestic Recipes.

To Cure Rounds of Beef or Tongues.—Make a brine of 4 galls. water, 2 lbs. coarse salt, 1 lb. brown sugar and 2 ozs. saltpetre. Boil and skim; when cold pour over the meat, which has been sprinkled with salt for a few hours previously to draw out the blood. The same brine will serve for corned beef, to boil during the winter. Rounds and tongues should be kept in the brine two weeks before being smoked; if kept in longer, the brine must be reboiled and skimmed.

Sausage Meat.—Separate the tender parts of the meat from the rough and bony pieces, and chop each sort separately; to 22 lbs. of meat have half a pound of salt, three heaped tablespoonsful of sage, three of pepper and two of thyme. Spread the meat in a tub and mix the seasoning before it is chopped, and it will be much better after done than if left to season last. Run through the cutter.—An Old Housekeeper.

To Keep Sausage Meat.—Instead of the usual casing, it answers very well to sew cotton into long narrow bags—say 10 inches long, and the strip before sewing together 8 inches wide. Stuff this tightly with the meat; tie both ends, and dip in cooked clear starch; hang up to dry; keep in a cool dry place.

Soft Soap.—2 lbs. any kind hard soap cut in slices, 2 lbs. sal soda and 10 quarts water. Boil all together. When you take from the fire, put in one quart of cold water.

Lemon Pie.—Take four heaping tablespoonsful of corn starch, mix it with a little cold water, then pour on one quart of boiling water, stirring it well; grate four lemons, then squeeze the juice out and grate again, using all that is good; put the lemons with ¼ lb. of butter and 1½ lbs. sugar into the hot mixture and stir well. This quantity will make six pies. Crust as for other pies, being sure to have it quite rich and good, and only an under-crust. C.

Stock Notes.

Mr. Owen Norris, of Talbot Co., Md., has just purchased from Maj. S. S. Bradford, of Culpeper, Va., a fine Short-horn bull, solid red.

Col. R. H. Dulaney, of Loudon, Va., imported last month, through this port, twenty-one head of Webb Southdowns, (one ram and twenty ewes.) The ram is reported to have cost $300, and the ewes $60 each. They arrived in good health and condition.

Mr. Wm. W. Ramsey, of Harford Co., Md., lost, one night last month, by dogs, a number of sheep; and a week or two later, Mr. Robert Ramsey had 24 killed out of a flock of 27. In the latter case the dogs were destroyed.

Mr. T. J. Lea, Brighton, Md., writes he has sold all the Cotswold Sheep he can now spare, thanks to his advertisement in *The American Farmer*. He has also sold a pair of Short-horn calves to J. F. Pickrell, of N. C.

Any of our readers desiring to purchase trotting horses, Short-horn cattle, Cotswold sheep, and Berkshire swine, are referred to the advertisement of Mr. E. B. Emory, of Centreville, Md. We have omitted inadvertently to allude to the purchase of Short-horns made by Mr. E. at the Kentucky sales of last July. He bought from T. Cowen Anderson, nine females and one bull, including Countess of Clarence, a daughter of imported Duchess of Clarence, who sold for $4,100 at B. B. Groom's sale; three out of the nine Young Marys offered, and two Frantics. These animals all reached Queen Anne's without injury, and have been shown during the fall at several of the fairs on the peninsula. Mr. E. writes us he has already sold all his bull calves of this season, save one now three weeks old.

The American Farmer.

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Wm. B. Sands, Proprietor.

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Transient Advertisements payable in advance—all others quarterly.
Advertisements should reach us by the 27th of the month, to secure insertion in the succeeding issue.

BALTIMORE, DECEMBER 1, 1880.

Closing of the Volume.

This No. of the "Farmer" concludes another volume; and, in returning thanks to our friends for their continued support in the past year, we cannot omit the announcement of a confident hope of an increased success for the one to come. We have many signs indicating prosperity beyond what has been enjoyed for several years past. We have been favored in a high degree by the continuance of a solid patronage, enjoyed by few journals of a similar character to our own; and whilst the stringency of the times has, from time to time, occasioned the departure from the scene of action of many of our cotemporaries, the old standard-bearer of agricultural literature has stood like a bulwark against which the storms have beat, and is acknowledged to be in its green old age in the very front rank among its cotemporaries.

It is not necessary for us, in announcing the commencement of a new volume in the coming month, to say more than what we have already uttered in our preceding numbers: that "its past record, since our connection with it, must be the safest criterion to judge of its future course." The senior editor, spared as he has been in the extension of his life to more than a decade beyond that allotted to man, is still at the helm,—at least as a coadjutor and adviser,—with a measure of strength and intellect, and unflagging in his zeal for the cause in which he has been engaged for well on to half a century; whilst the junior, associated as he is with every movement intended to forward the same cause in his native State, has secured the aid of a corps of contributors of the most practical character in their respective departments of life and work, so that we can confidently claim that no other journal devoted to agriculture in all its diversities can present a feast of good things to its readers surpassing in excellence that which each number furnishes. We are also favored with a bevy of fair correspondents for our Home Department, of whom we may well feel proud. We hope to continue the same, and intend to use our endeavors to extend the number, and to pay increased attention to this department, in which, as we are so frequently assured, the ladies of the country households into which *The American Farmer* goes take great interest and pleasure.

May we ask the favor,—we feel as if we had a *right* to claim it,—that each one of our present subscribers will not only promptly remit the renewal of his subscription fee for the ensuing year, but send at least one additional name; and there are few, we are sure, but could make up a good-sized club in their respective neighborhoods with a very slight effort. We wish to double our subscription list the coming year, and we call upon every one who considers our labors of a long life in so grand a direction as that of endeavoring "to make two blades of grass to grow where but one grew before" to come up to our help.

As heretofore announced, the subscription price will be $1.50 per annum. Clubs of five for $1 each; with ten at $1 each an additional copy will be sent to getters-up of the club. Special arrangements of the most liberal kind will be made to those who will make it a business to canvass for the *Farmer*, and specimen copies and show-bills furnished when requested. Until the first of the coming month three back Nos. will be forwarded free to new subscribers for the coming volume.

State Crop Reports for the Benefit of Farmers.

An Inter-State Agricultural Convention was to be held in Springfield, Ill., November 30 and December 1 and 2, 1880. All presidents, secretaries and members of State Agricultural Boards or Societies, as well as others interested in the advancement of the interest of agriculture, were invited to be present and participate.

The object of the convention is to discuss, and, if possible, adopt a uniform system of reports, that shall give to farmers and others prompt and reliable information in regard to the probable and actual grain, fruit and meat supply of the Great West.

☞Persons desiring the newer varieties of small fruits are referred to the advertisement of Mr. R. S. Cole, who has large quantities for sale.

Commendatory Words to the American Farmer.

From among many similar kindly words, we select the following as showing the estimation in which our labors are held by such appreciative and competent judges as our brethren of the press:

It is well printed and treats on every subject pertaining to agriculture. No farmer should be without it.—*Frederick (Md.) Examiner.*

This time-honored agricultural monthly is an old friend of former years, and we heartily commend it to our farmer patrons.—*Warrenton (Ga.) Clipper.*

It is truly "old reliable," and farmers of the south, despairing of political achievement, and turned back upon their own resources, cannot act more wisely than to take those agricultural journals which can best forward them in their more sensible career. Such is *The American Farmer.—Durham (N. C.) Recorder.*

Freighted as usual with a valuable fund of information for agriculturists. It should be a regular visitor in the household of every progressive agriculturist.—*Anderson (S. C.) Journal.*

One of the best publications for the farmer, *The American Farmer*, is at hand. This is a very solid work, and those lucky enough to be subscribers will recognize the fact. Its sayings stay by you.—*Dover Delawarean.*

Full of interesting and instructive reading for the farmer. Every farmer should take it.—*Onancock Eastern Virginia.*

Every farmer should have it.—*Winchester (Va.) News.*

It is filled with interesting and valuable reading matter for farmers, planters, the household, &c. The price of subscription is only $1.50, in reach of every farmer, and they should by all means subscribe for this indispensable magazine.—*Lexington (S. C.) Dispatch.*

This is one of the best agricultural monthlies, and its attention is particularly devoted to the needs of this section of the country. We strongly recommend it to our farmers.—*Salisbury (Md.) Times.*

We make many of our agricultural selections from this journal, because of its large information and its long experience, and subscription to it well repays the outlay.—*Durham (N. C.) Recorder.*

It has a corps of able correspondents who, through its pages, discuss in a clear and interesting manner all subjects in which the farmer should be especially interested.—*Upper Marlboro (Md.) Gazette.*

Replete with valuable information for the husbandman, as well as the mechanic.—*Rising Sun (Md.) Journal.*

We acknowledge receipt of this valuable agricultural monthly for November, and recommend it heartily to our readers as a paper worthy their support.—*Newberry (S. C.) Herald.*

This old and reliable journal, published in the interest of agriculture, was established in the year 1819, and is now in the 60th year of its age. Its has been under the present management about 10 years, [about 35,] each of which has shown an improvement. It is now regarded as one of the leading agricultural publications of the United States, and is particularly adapted to the Piedmont region of North Corolina.—*Greensboro (N. C.) North State.*

Baltimore Markets—November 30.

Breadstuffs—*Flour*—Transactions are heavy and a good feeling prevails. We quote: Howard Street Super $4.25@4.75; do. do. Extra $5@5.62; do. do. Family $5.75@6.75; Western Super $4@4.75; do. Extra $5@5.62; do. Family $5.75@6.75; City Mills Super $4.25@4.50; do. do. Extra $5@5.75; do. do. Rio brands Extra $6 75; Winter Wheat patent Family $6.75@7.50; Spring Wheat Family, "clear" $5.25@5.50; do. do. do. "straight" $5 75@6; Minnesota patent Family $7@7.50; Fancy brands $7.50; Fine $3.50@4; Rye flour $5.37@5.75.

Wheat.—Southern quiet but steady. Western firm. We quote: No. 2 red cash $1.20¼; do. do. Dec. $1.20¼@$1.20⅝; do. do. Jan. $1.24⅜; do. do. Feb. $1.27⅛@1.28; do. do. March $1.29⅝@1.30; Southern Fultz $1.12@1.18; do. long-berry $1.20@1.27.

Corn.—Southern white declining. Western dull and weak. We quote: Western mixed cash 59⅞@60 cts.; do. do. Dec. 57¼@57⅝ cts.; do. do. Jan. 58⅛@58⅜ cts.; Southern white 52@53 cts.; do. yellow 53@55 cts.

Oats.—Are quiet under very light receipts, but firm. We quote: Western mixed and stained 43 cts.; do. bright 44 cts.; do. white 45@46 cts.

Rye.—Market firm and higher. Sales of Maryland at $1.03, and of prime Pennsylvania at $1.05.

Cotton.—For both spots and futures we write the market dull and weak. We quote as follows for spots, viz: Middling 11⅞@12 cts.; Strict Low Middling 11⅝ cts.; Low Middling 11⅜ cts.; Good Ordinary 10⅞ cts.

Mill Feed.—We quote: City at $19 for brownstuff, and $20 for middlings, and Western bran at $18 ₹ ton with the demand fair and the market steady.

Hay and Straw.—Hay is strong, active and higher, and Straw steady but firm. We quote: Hay, Cecil County Timothy, $23@24; do. Md. and Pa. do. $19@$21; do. Western do. $20@22; do. mixed $19@20; do. clover $17@18; Straw, wheat, $10; do. oat $13@14; do. rye $20@21.

Provisions.—Cut Meats and barrelled Pork are quiet and rather heavy. Quote as follows for jobbing lots, viz: Bulk Shoulders, packed, new 5⅛ cts.; do. L. C. Sides do. do. 8 cts.; do. C. R. Sides do. do. 8⅛ cts.; Bacon Shoulders 6⅛ cts.; do. C. R. Sides 8⅛ cts.; do. Hams, sugar-cured, new, 11@12 cts.; do. Shoulders do. 7⅛ cts.; do. Breasts do. 10 cts.; Lard, refined, tierces 9⅛@9⅜ cts.; Mess Pork, new, ₹ brl. $15.

Dressed Hogs.—We quote at $5.75@6 ₹ 100 lbs.

Eggs.—Fresh are strong and active, and we quote Western at 27@28 cts., and nearby at 29 cts, but pickled still sell at 18@20 cts. ₹ dozen.

Butter.—Firm and active, particularly for choice. We quote: New York State, choice tubs, 28@30 cts.; do. do. do. firkins 26@28 cts.; Creamery, choice, 30@34 cts.; Western, choice fresh tubs, 21@24 cts.; do. good to prime do. 17@19 cts.; Western Rolls, choice fresh, 21@23 cts.; do do. good to prime 18@20 cts.; nearby receipts 18@22 cts.

Live Stock.—*Beef Cattle*—Supply in excess of demand. Best on sale brought $5.30, but most sales ranged from $3.25@4.75 ₹ 100 lbs. *Milk Cows* $25@40 ₹ head.

Hogs.—Not very active. Quotations ranging from 5¾ to 6¼ cts., most sales being made at 6⅛@6⅜ cts.

Sheep.—Dull and in limited demand. We quote butcher Sheep at 3½@5 cts., and Lambs 4@5¾ cts.

25 Useful Articles and Agts.' Circular for 3c. Stamp. London Needle Co. 264 4th Av., N. Y.

COTTON-SEED MEAL,

The Standard Food for Milch Cows, Beef Cattle, Sheep, &c. For sale by

A. L. BOGGS, Jr. & Co.

147 N. Howard Street, Baltimore.

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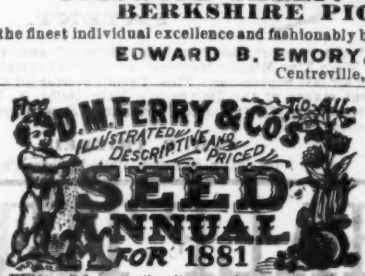

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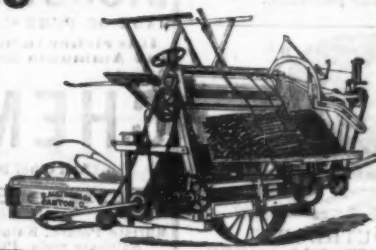

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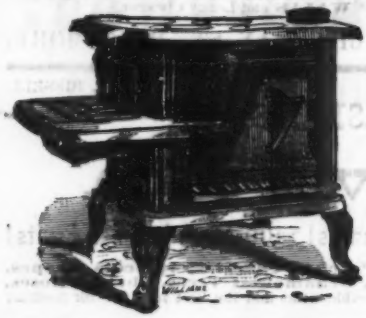

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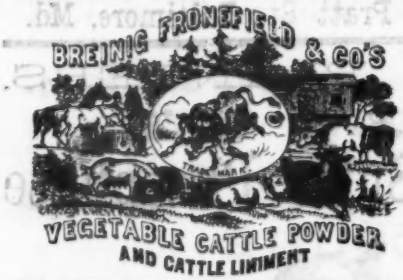

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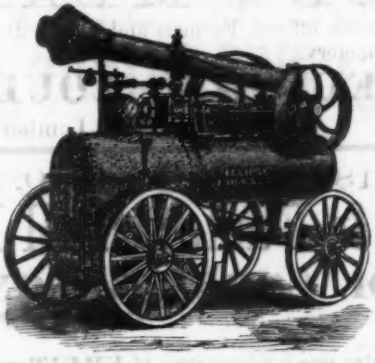

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